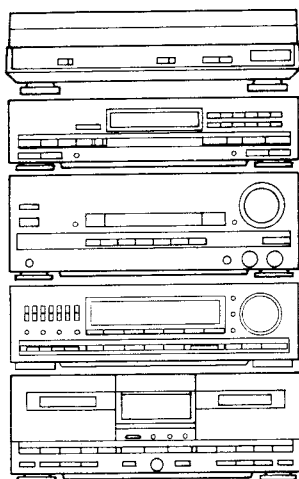




FM/AM DIGITAL SYNTHESIZER TUNER  
TUNER SYNTHETISEUR NUMERIQUE FM/AM  
UKW/MW DIGITALSYNTHESIZER-TUNER  
SINTONIZZATORE DIGITALE FM/AM CON SINTETIZZATORE  
**F-Z460L/F-Z460**

STEREO AMPLIFIER  
AMPLIFICATEUR STEREO  
STEREOVERSTÄRKER  
AMPLIFICATORE STEREO  
**A-Z560**



SOUND FIELD PROCESSOR  
PROCESSEUR DE CHAMP ACOUSTIQUE  
SCHALLFELD-PROZESSOR  
UNITÀ DI TRATTAMENTO DEL CAMPO SONORO  
**SP-Z560**

STEREO DOUBLE CASSETTE DECK  
DOUBLE MAGNETOCASSETTE STEREO  
DOPPEL-STEREO-KASSETTENDECK  
DOPPIA PIASTRA A CASSETTE  
**CT-Z560WR**

STEREO TURNTABLE  
TABLE DE LECTURE STEREO  
STEREO-PLATTENSPIELER  
GIRADISCHI STEREOFONICO  
**PL-Z460/PL-Z560**

*Operating Instructions*  
*Mode d'emploi*  
*Bedienungsanleitung*  
*Istruzioni per l'uso*

English

Français

Deutsch

Italiano

**WARNING:** The apparatus shall not be exposed to dripping or splashing.

## IMPORTANT



The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

### CAUTION

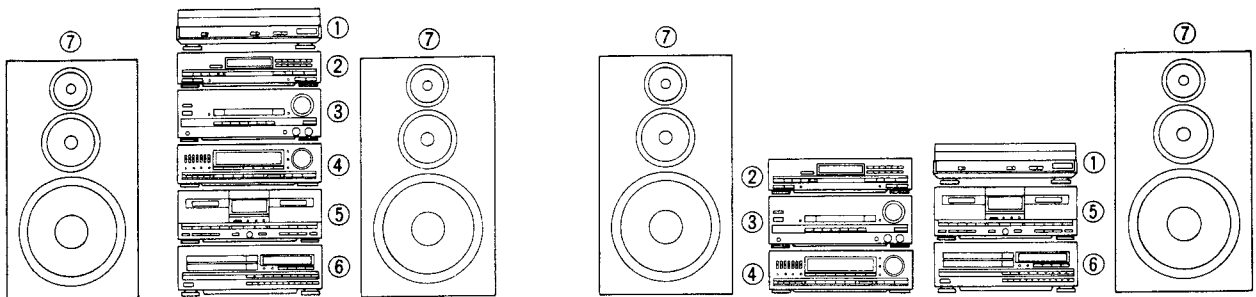
**RISK OF ELECTRIC SHOCK  
DO NOT OPEN**

**CAUTION:**  
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

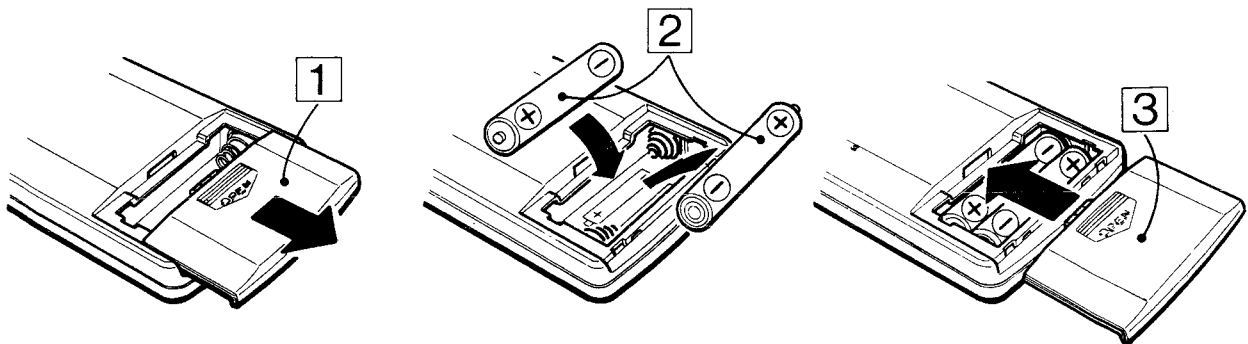


The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

1



2

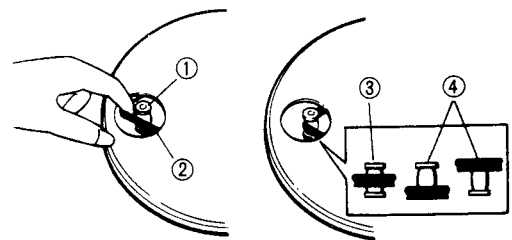


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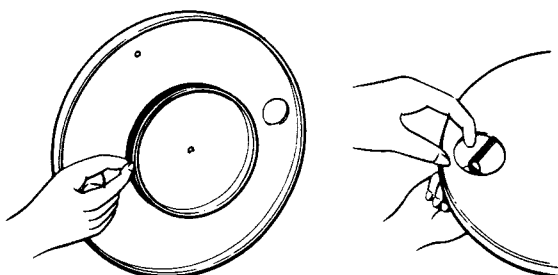
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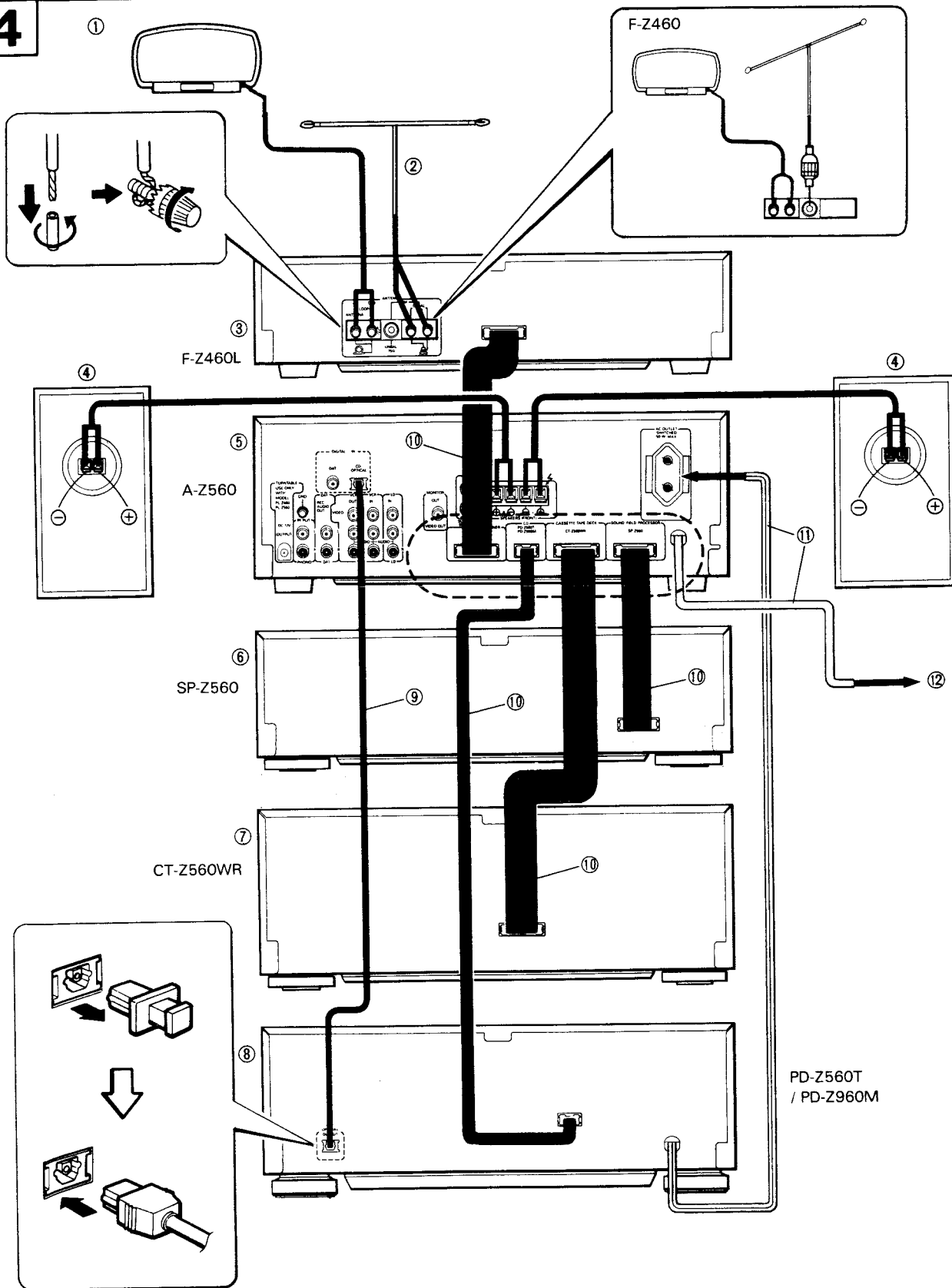
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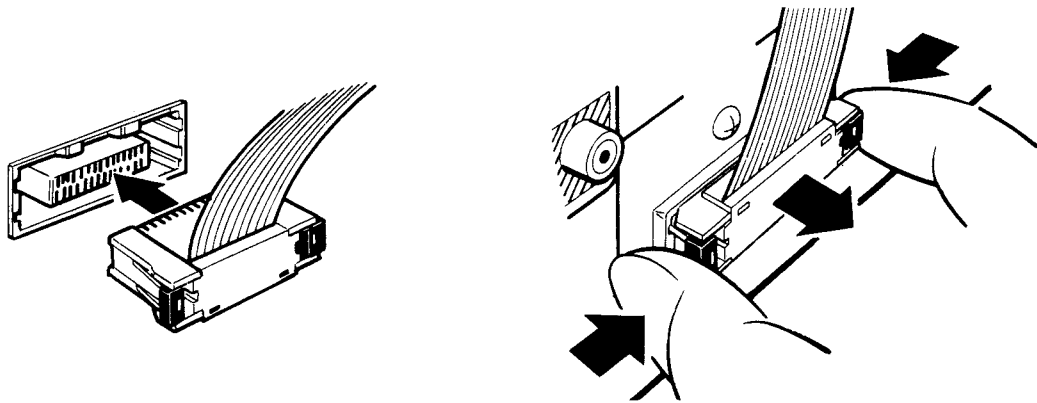
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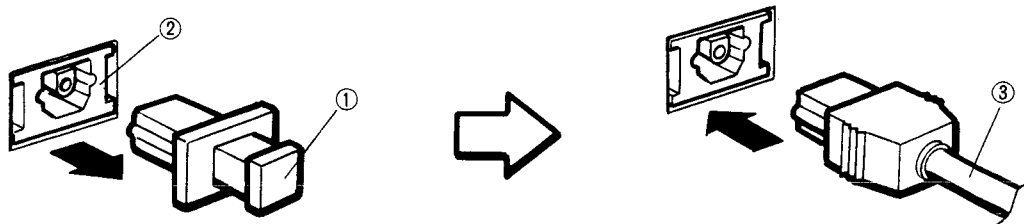
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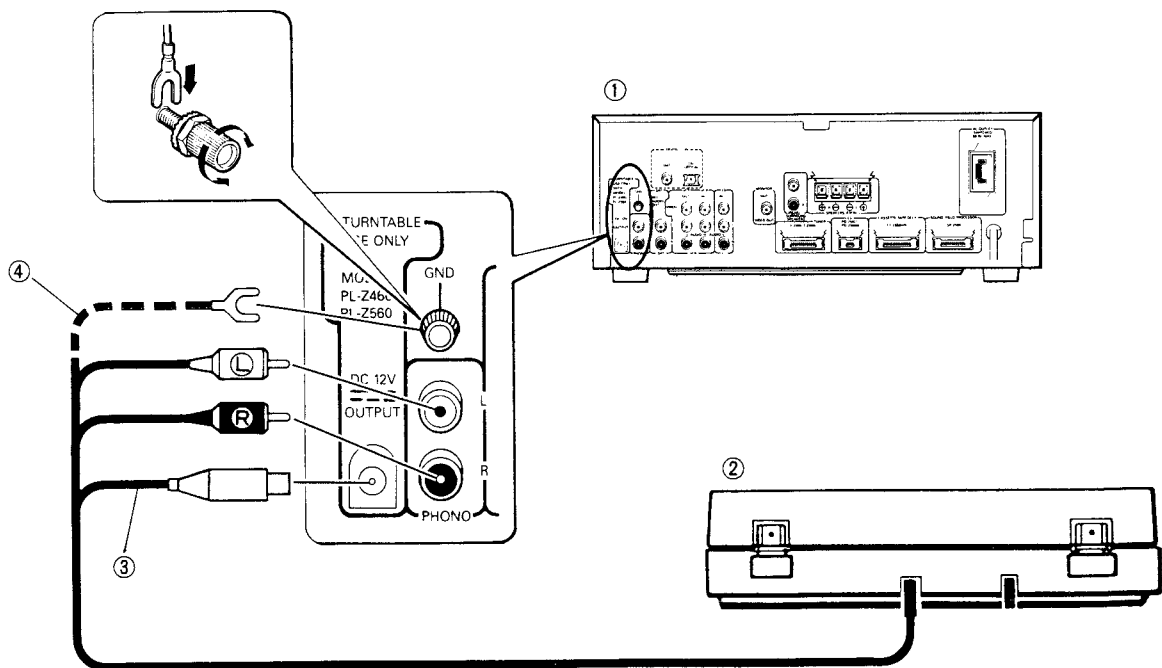
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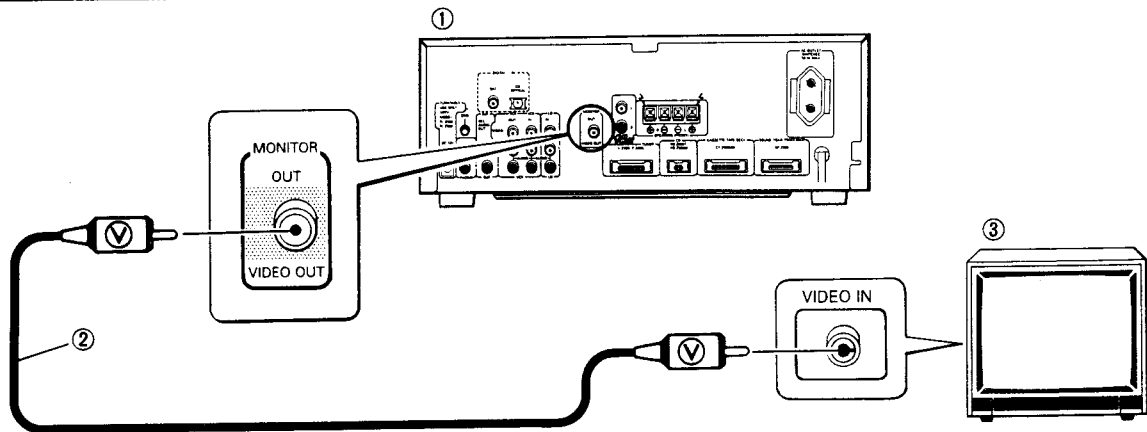
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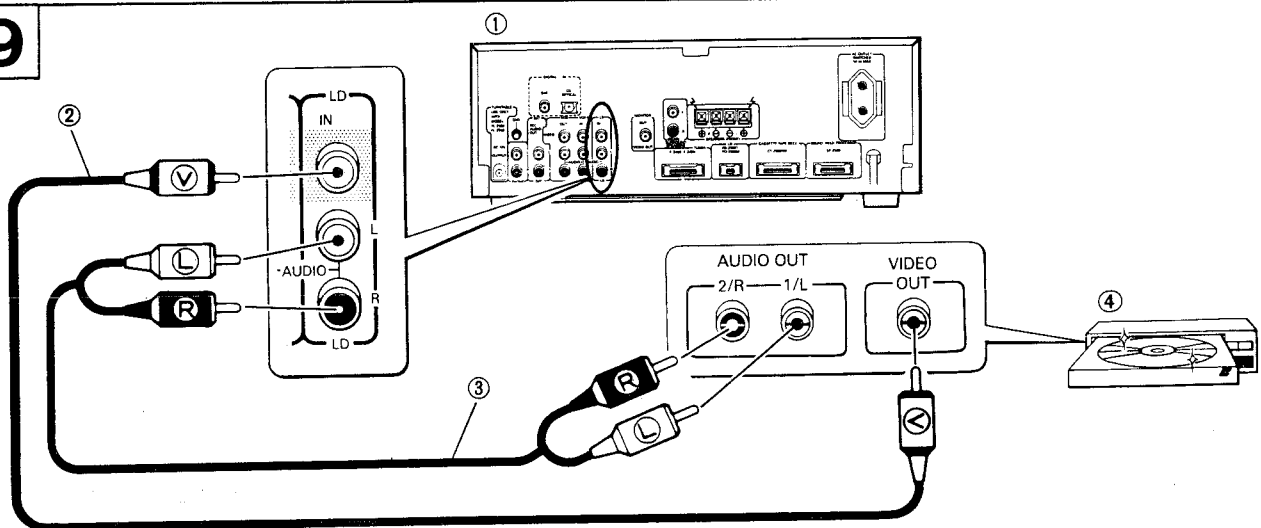
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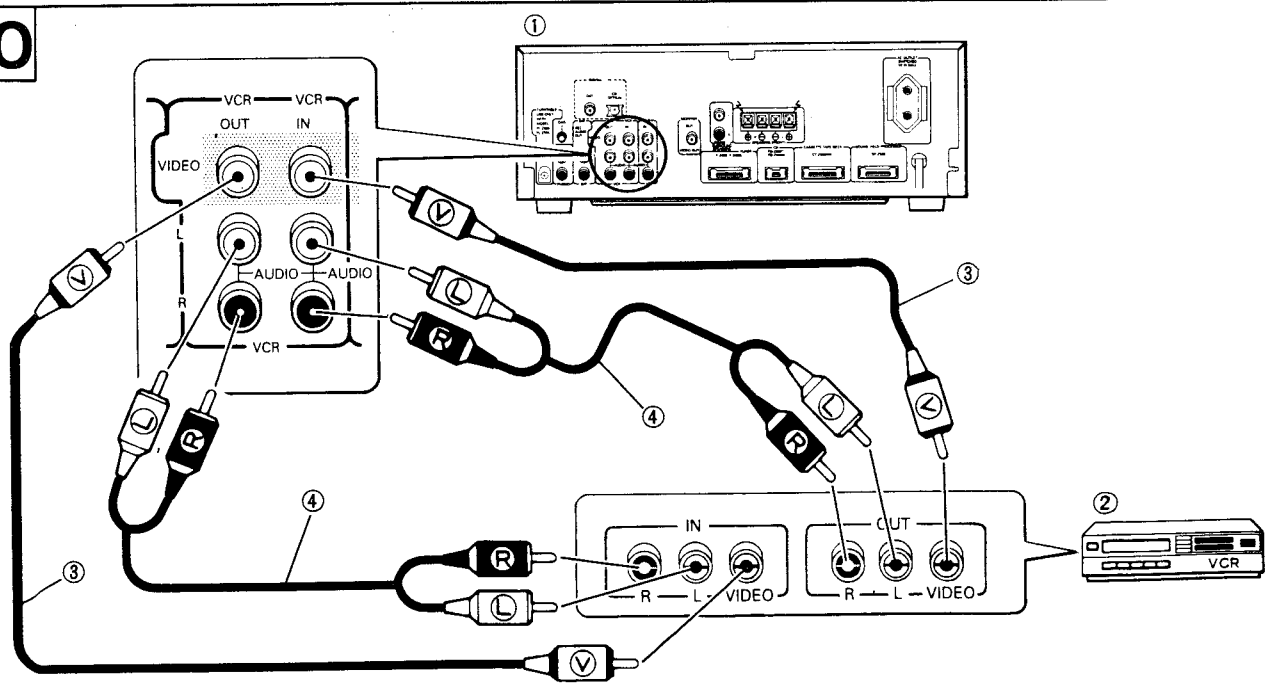
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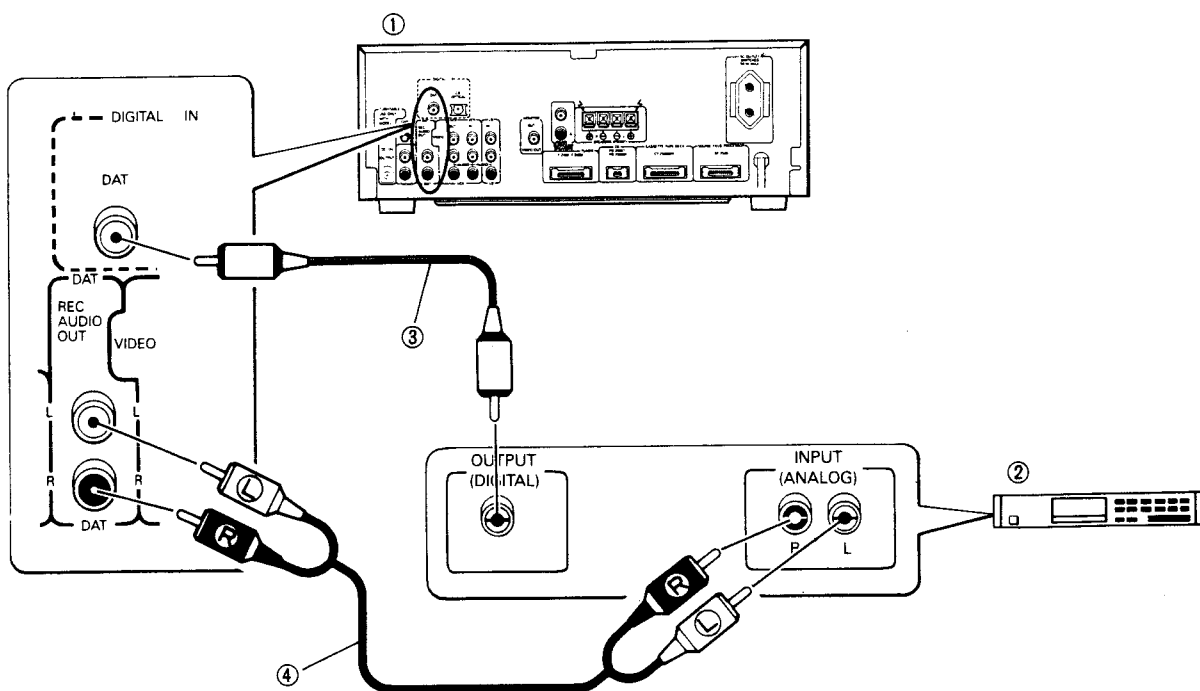
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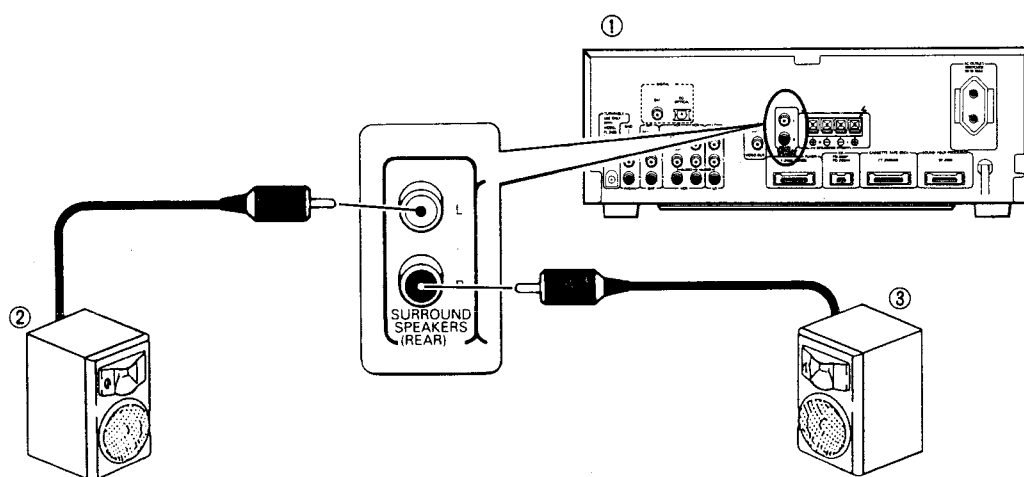
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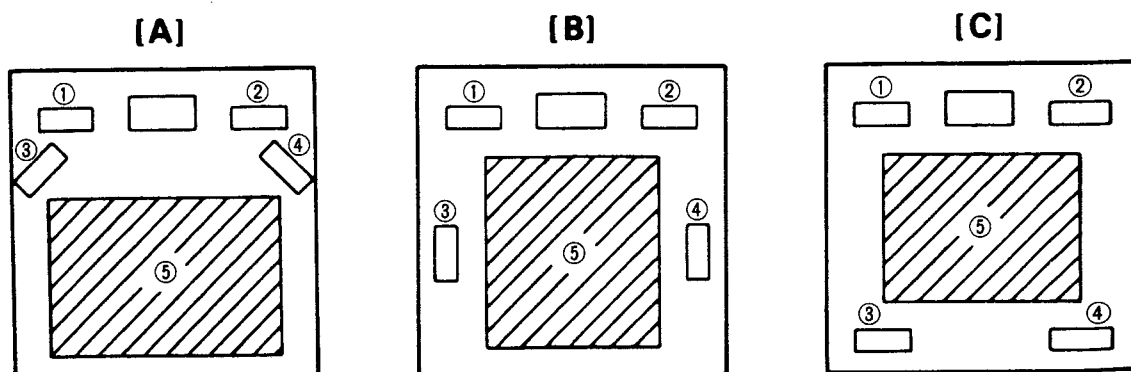
**11**



**12**



**13**



14

- 1 K ADJUST
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- 15:40 87.50 STATION 21

16

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- ④ EVERY 2
- ⑤ ONCE 2
- ⑥ 000 ON 2



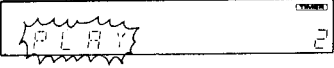

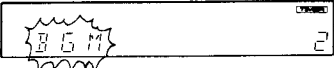


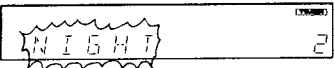

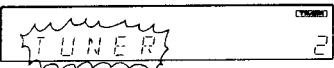

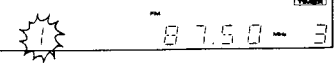


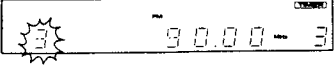

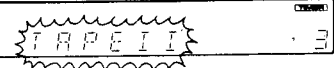


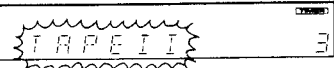

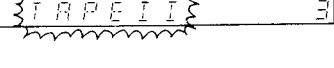


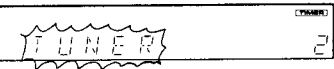

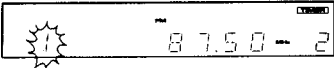


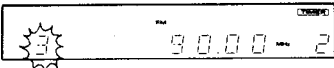



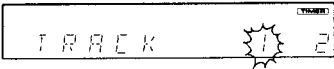


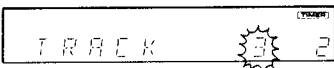



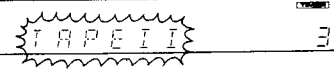


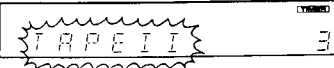

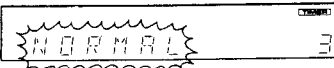


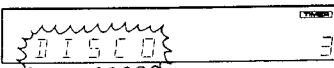




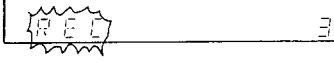

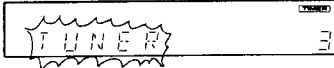

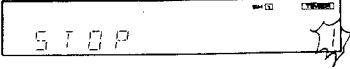


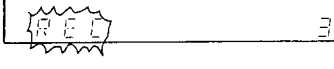

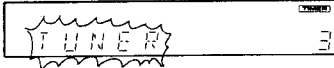

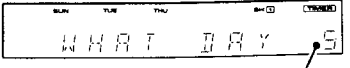




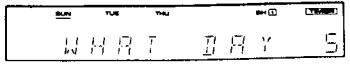


1

- ① 700 ON 2
- ② 700 ON 2
- ③ 715 ON 2
- ④ 715 OFF 2

2

- ① 915 OFF 2
- ② 915 2
- ③ 930 2
- ④ PLAY 2

3

4	<div>①    2</div> <div>②   2</div> <div>③    2</div> <div>④   2</div>	<div>TUNER</div> <div>①   3</div> <div>②    3</div> <div>③   3</div> <div>④    3</div> <div>⑤   3</div>
5	<div>   2</div> <div>TUNER</div> <div>①   2</div> <div>②    2</div> <div>③   2</div> <div>CD</div> <div>①   2</div> <div>②    2</div> <div>③   2</div>	<div>6</div> <div>CD</div> <div>①   3</div> <div>②    3</div> <div>③   3</div> <div>④    3</div> <div>⑤   3</div>
17	<div>①    3</div> <div>②   3</div>	<div>18</div> <div>1</div> <div>  4</div>
5	<div>①    3</div> <div>②   3</div>	<div>2</div> <div>  5</div> <div>"SHIFT"</div>
6	<div>①    3</div>	<div>3</div> <div>  5</div> <div>4</div> <div>  5</div>



Thank you for buying this PIONEER product.

Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.

"This product complies with the Radio Interference requirements of the EC (European Community) Directive 87/308/EEC."

In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

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## SETTING UP THE SYSTEM

To get the best performance from this system, set it up as shown in Fig. 1 on page 2.

- ① Turntable
- ② FM/AM tuner
- ③ Amplifier
- ④ Sound field processor
- ⑤ Cassette deck
- ⑥ Compact disc player
- ⑦ Speakers system

### NOTE:

- Place the speakers so that they aren't touching any other components. If they are touching, vibrations transmitted from the speakers to other components may adversely affect sound quality. Preventing radiation of heat from the amplifier may also cause malfunctioning.
- If the turntable is mounted directly on or against a speaker, the vibration from the speaker will be transported to the tonearm's cartridge, thus causing feedback howling. Be sure that speakers are mounted sufficiently isolated from the turntable.

### CONDENSATION

When the unit is brought into a warm room from previously cold conditions or when the room temperature is suddenly increased, condensation may form inside and the unit may not be able to attain its full performance. In cases like this, allow the unit to stand for about an hour or raise the room temperature gradually.

## LOADING BATTERIES INTO REMOTE CONTROL UNIT

See page 2, Fig. 2.

1. Open the rear cover.
2. Install size "AA" (IEC R6/UM-3) batteries correctly matching polarity.
3. Close the cover.

Incorrect use of batteries may lead to leakage or rupture. Always be sure to follow these guidelines:

### A.

Always insert batteries into the battery compartment correctly matching the positive  $\oplus$  and negative  $\ominus$  polarities, as indicated inside the compartment.

### B.

Never mix new and used batteries.

### C.

Batteries of the same size may have different voltages, depending on their type. Do not mix different type of batteries.

## PL-Z460/PL-Z560 TURNTABLE SET UP

See page 2, Fig. 3.

### 1. Check the parts.

- ① EP adaptor  
(You will find this taped on the cabinet)
- ② Platter mat
- ③ Platter

2. Pinch belt on inner rim between thumb and forefinger.
3. Slip belt over finger and pull out, inserting finger in hole.
4. Insert finger from top of platter and transfer belt to forefinger.
5. Lower platter onto spindle.
6. Release belt onto pulley.

- ① Pulley
- ② Belt
- ③ Correct
- ④ Incorrect

7. Place platter mat on platter (with "PIONEER" side up).
8. Remove the vinyl band holding the tonearm.
9. Remove the tonearm from the arm rest.
10. Remove the stylus cover.

# CONNECTIONS

## Basic Setup

See page 3, Fig. [4] for the connections diagram.

- ① Accessory AM loop antenna
- ② Accessory FM antenna
- ③ FM/AM tuner (F-Z460L/F-Z460)
- ④ Speaker
- ⑤ Stereo amplifier (A-Z560)
- ⑥ Sound field processor (SP-Z560)
- ⑦ Double cassette deck (CT-Z560WR)
- ⑧ Compact disc player (optional PD-Z560T or PD-Z960M)
- ⑨ Optical cable
- ⑩ Input/Output cable (Flat cable)
- ⑪ Power cord
- ⑫ AC wall socket

Plug the power cord into the AC wall socket outlet only after all the connections have been completed.

### Proceed as follows with the connections:

1. Connect the supplied AM loop antenna ① and FM antenna ② to the FM/AM tuner.
2. Connect the FM/AM tuner input/output cable to the amplifier TUNER jack.

#### Connecting the input/output cable

See page 4, Fig. [5].

Match the colors on the plug with those on the jack and insert. Never remove or insert the plug when the power is switched on. Push the plug in straight until both the left and right pins lock. To remove, hold both sides of the plug and pull out slowly.

3. Connect the compact disc player input/output cable to the amplifier CD jack.
4. Connect the compact disc player optical output jack to the amplifier optical input terminal with the optical cable. (See page 4, Fig. [6].)

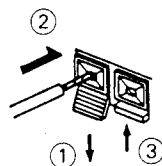
Remove the dust cap, align the plug and the terminal, and insert.

- ① Dust-cap
- ② Terminal
- ③ Optical cable

#### CAUTIONS FOR HANDLING OPTICAL CABLE

- A. Do not fold optical cable when using as the cable is easily damaged. When circling it, keep the diameter of the loop greater than 15 cm.
- B. When connecting it, insert the plug firmly to the end to prevent a faulty connection.
- C. Prevent the plug of the optical cable from getting scratched or dusty. If dusty, clean with a soft cloth before connecting.
- D. When the optical cable is not connected, use the dust-cap on the optical terminal of the unit to avoid dust.

5. Connect the cassette deck input/output cable to the amplifier CASSETTE TAPE DECK jack.
6. Connect the sound field processor input/output cable to the amplifier SOUND FIELD PROCESSOR jack.
7. Connect the speakers using the speaker cords.  
Connect the “+” terminals on the amplifier to the “+” terminals on the speakers, and the “-” terminals on the amplifier to the “-” terminals on the speakers.



- ① Push the speaker terminal knob down.
- ② Insert the speaker cord.
- ③ Push the knob up.

#### NOTE:

Do not allow the conductors of the cords to project beyond the terminals and to come into contact with other conductors. A breakdown or failure may occur when conductors touch one another.

#### Speaker impedance

Connect speaker systems with a nominal impedance of between 6 and 16  $\Omega$ .

8. Finally, connect the power cord ⑪.

## Connecting other components

#### NOTE

• Insert the plugs securely into the jacks. Improper connection can lead to sound distortion or malfunctioning.

#### • Connecting a stereo turntable

See page 4, Fig. [7].

- ① Stereo amplifier
- ② Turntable
- ③ Power supply cord (Connect this if you're using a PIONEER PL-Z460 or PL-Z560)
- ④ Ground cord (Connect this if you're using anything other than a PIONEER PL-Z460 or PL-Z560.)

If using this unit together with PIONEER PL-Z460 or PL-Z560, connect the turntable's audio cords and power supply cord respectively to the amplifier's PHONO jacks and DC 12V OUTPUT jack.

If using a different turntable, connect the audio cord and ground cord.

#### • Connecting a Monitor TV

See page 5, Fig. [8].

- ① Stereo amplifier
- ② Video cord
- ③ Monitor TV

#### • Connecting a VideoDisc Player

See page 5, Fig. [9].

- ① Stereo amplifier
- ② Video cord
- ③ Audio cord
- ④ Videodisc player (LD player)

#### • Connecting a VCR

See page 5, Fig. [10].

- ① Stereo amplifier
- ② VCR
- ③ Video cord
- ④ Audio cord

#### • Connecting a Digital Audio Tape deck (DAT)

See page 6, Fig. [11].

- ① Stereo amplifier
- ② Digital audio tape deck
- ③ Coaxial cable with pin plug
- ④ Audio cord

#### • Connecting Surround Speakers (rear speakers)

See page 6, Fig. [12].

- ① Stereo amplifier
- ② Surround speaker (left channel)
- ③ Surround speaker (right channel)

Connect a speaker system having a normal impedance of 16  $\Omega$  or more.

# ANTENNA CONNECTIONS

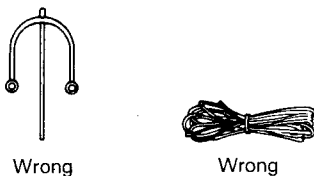
**Radio reception is not possible unless the antenna is properly connected.**

The strength of broadcast signals varies from one area to another. Signal propagation is especially poor in metropolitan areas, where there are many tall buildings, and in mountainous areas. Proper antenna installation is vital to good reception.

## FM ANTENNA

### FM Antenna Attachment

Connect the accessory FM antenna to the FM terminals. Stretch the antenna out to its full "T" shape, and affix it to a wall, etc.



### External FM antenna installation

Use an external antenna when the signals from the station are weak and cannot be picked up by the accessory FM antenna, or when the sound heard is accompanied by large amounts of noise.

If the FM antenna terminal is a PAL terminal then connect as shown in figure A.

If the FM antenna terminal is not a PAL terminal, then connect as in figure B if using a 75ohm coaxial cable.



## GROUNDING

Grounding is recommended if reception of FM programs is impaired by noise. To ground, connect a thick polyvinyl insulated wire to the GND terminal and attach the other end to a metal water pipe or grounding bar or wind it around a copper plate and bury it.

### NOTE:

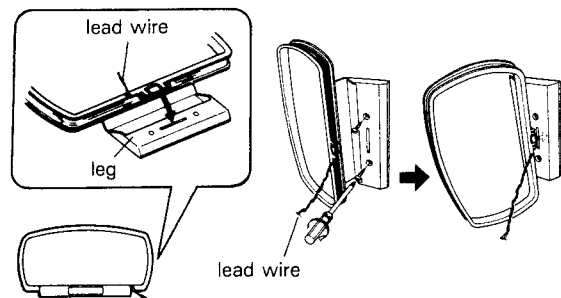
*Never connect a wire to a gas pipe for grounding since sparks may ignite the gas.*

## AM ANTENNA

The AM loop antenna supplied with the tuner should be connected to the AM antenna terminals. The antenna should be placed at a distance from the tuner, and should not be allowed to touch metallic objects. Avoid placing it near CD players, personal computers, television sets, and other devices generating radio frequencies.

### Setting Up the AM Antenna

- Insert the clip on the bottom of the antenna into the groove on the leg.
- Place the antenna on a level surface and rotate it to locate the orientation that yields the best reception.
- To permanently fix the antenna, screw the leg to a wall or something similar before assembling (fixing the antenna in the direction that gives the best reception).



## External AM antenna

### Indoor AM antenna

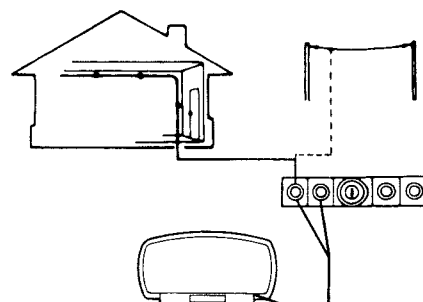
Provide a vinyl-coated wire (5 to 6 meters long). Secure one end to the AM terminal and the other end to a wall or other high location.

### Outdoor AM antenna

If reception is still poor even when a lead antenna has been stretched out indoors, stretch out a vinyl-coated wire and secure it outdoors.

### NOTE:

*Do not detach the AM loop antenna when using the external AM antenna.*



# SURROUND SYSTEM

## What is surround sound?

With ordinary stereo, sound normally comes only from speakers in front of the listener. In a concert hall or theater though, sound reflected from the walls and ceiling reaches the listener from all directions. This is what accounts for the feeling of ambience or spaciousness of a live performance.

This system is equipped with a sound field processor that lets you enjoy a wider, more spacious surround sound.

## Operation

Surround is also switched ON when you press the sound field processor's SOUND EFFECT switch ON.

## Speaker System Placement Examples (Page 6, diagram 13)

The sound effects obtained in a surround system depend on speaker placement. Experiment with various arrangements to find the one most suited to your tastes.

Placing the speakers so that they are slightly higher than ear level contributes to sound quality.

### [Case A]

Good sound dispersion; recommended for movies, etc.

- ① Front speaker (left)
- ② Front speaker (right)
- ③ Rear speaker (left)
- ④ Rear speaker (right)
- ⑤ Listening area

### [Case B]

Sound appears to come from directly in front of listener. Good for listening to music recordings.

- ① Front speaker (left)
- ② Front speaker (right)
- ③ Rear speaker (left)
- ④ Rear speaker (right)
- ⑤ Listening area

### [Case C]

Offers most varied effects; good for watching sports programs or listening to live recordings.

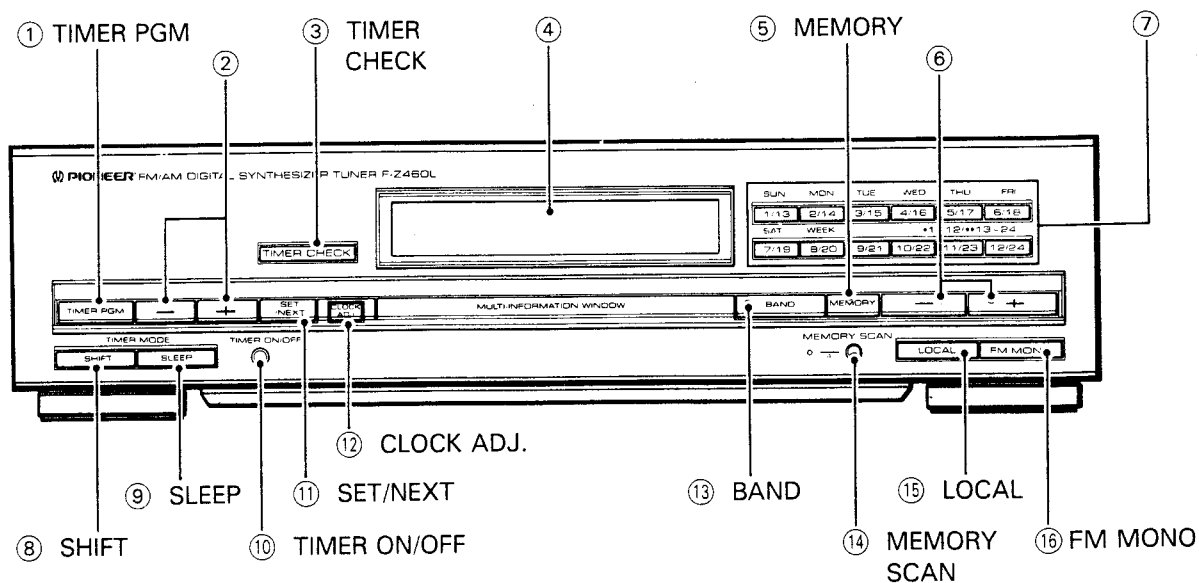
- ① Front speaker (left)
- ② Front speaker (right)
- ③ Rear speaker (left)
- ④ Rear speaker (right)
- ⑤ Listening area

# FRONT PANEL FACILITIES

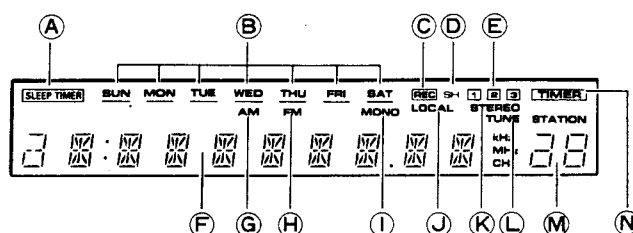
## FM/AM DIGITAL SYNTHESIZER TUNER F-Z460L/F-Z460

• Illustration shows model F-Z460L.

### Front panel



## Display section

① **TIMER PGM switch**

Use this to set the weekly timer. The setting changes from TIMER 1 → 2 → 3 in order each time you press the switch.

② **-, + switches**

Used for adjusting the clock, timer settings and its related adjustments.

③ **TIMER CHECK switch**

Used for confirming timer setting, after setting for timer playback or timer recording.

④ **Display section**⑤ **MEMORY switch**

Used to memorizing stations. When the switch is pressed, the frequency display will flash. To memorize the frequency of any station, press a station call switch while the frequency display flashes.

⑥ **TUNING (-, +) switch**

Used for locating stations.

Use “-” switch for lower, and “+” switch for higher frequencies.

⑦ **STATION CALL/DAY INPUT switches**

[During tuner operation]

Used for memorizing and recalling memorized stations.

[During timer operation]

Used for weekly timer day input.

⑧ **SHIFT switch**

Used for setting the weekly timer SHIFT function.

⑨ **SLEEP switch**

Sets the sleep timer.

⑩ **TIMER ON/OFF switch**

Used to switch weekly timer settings on and off.

⑪ **SET/NEXT switch**

Used for current time, timer playback, and timer recording setting.

⑫ **CLOCK ADJ. switch**

Used for starting the clock adjustment.

⑬ **BAND selector switch**

Each time this switch is pressed, FM, MW, or LW (F-Z460L) reception is selected in order.

⑭ **MEMORY SCAN switch**

Press this switch and broadcasting stations memorized in STATION CALL switches will be received one after the other for about five seconds each. If you press the switch again, memory scan stops, and reception of the station being received at that time continues.

⑮ **LOCAL switch (When receiving FM broadcasts)**

Use this if the broadcast signal is too strong, causing noise and distortion. The attenuator reduces the strength of the signal, reducing noise and distortion.

⑯ **FM MONO switch**

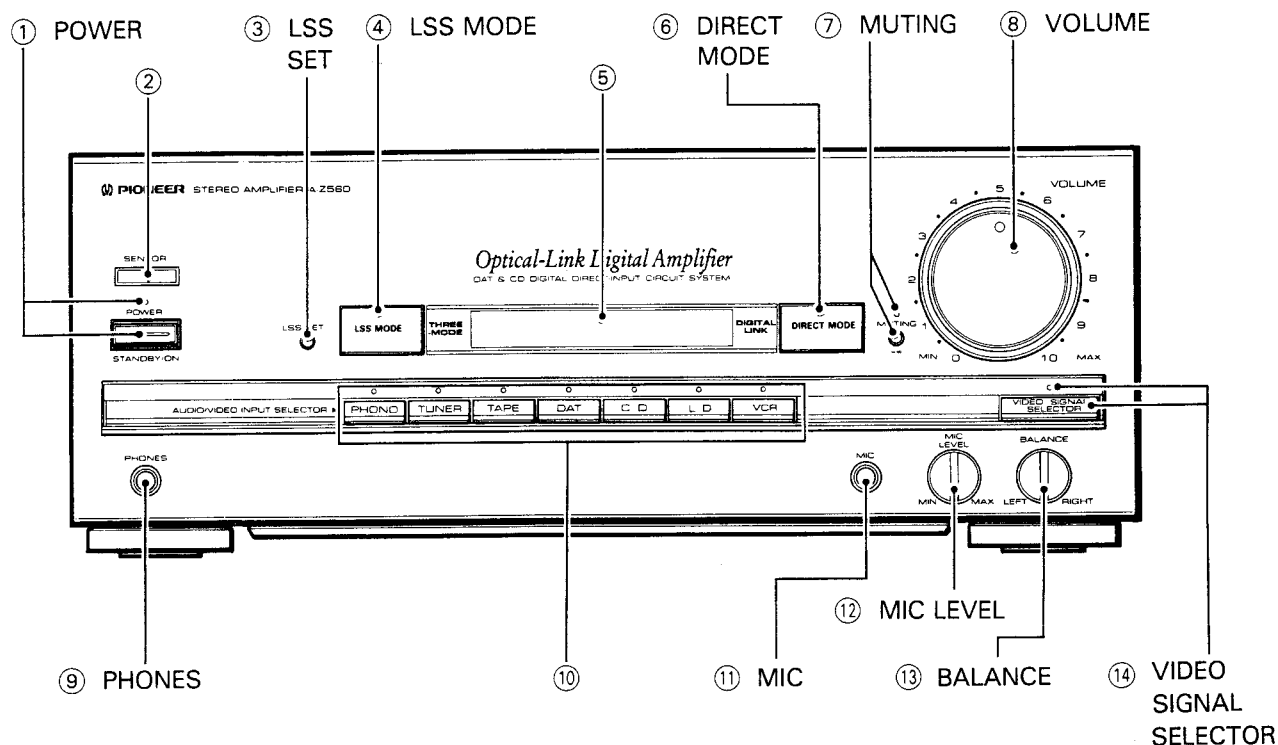
Turn on when there is much noise during reception of FM stereo broadcasts. The reproduced sound will become monaural but noise will be reduced.

- ① This lights when the sleep timer is operating.
- ② When setting the timer, the line under the day lights.
- ③ This lights when the timer has been set for recording.
- ④ This lights when the shift timer has been set in advance.
- ⑤ This lights when the timer (1 to 3) has been set in advance.
- ⑥ This displays frequency and letters.
- ⑦ This lights when an AM broadcast is being received.
- ⑧ This lights when an FM broadcast is being received.
- ⑨ This lights when FM MONO is ON.
- ⑩ This lights when LOCAL switch is ON.
- ⑪ This lights during stereo broadcast reception.
- ⑫ This lights during broadcast reception.
- ⑬ This displays STATION CALL number during reception.
- ⑭ This lights during timer setting and checking.

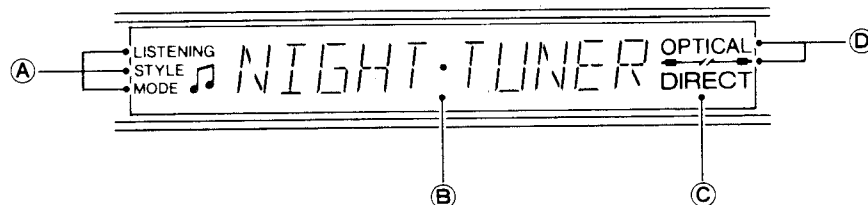
## FRONT PANEL FACILITIES

### STEREO AMPLIFIER A-Z560

#### Front panel



#### Display section



#### ① POWER STANDBY/ON switch/indicator

This is the switch for electric power.

**ON** .... When set to the ON position, power is supplied and the unit becomes operational.

**STANDBY** .... When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

The indicator above the switch lights when the power is ON, and goes out during STANDBY.

During STANDBY, the tuner display only shows the time on the clock.

#### ② Remote sensor

#### ③ LSS SET switch

Use to operate the Listening Style Selector memory.

#### ④ LSS MODE switch (see page 37)

Use to recall the Listening Style Selector.

#### ⑤ Display section

#### ⑥ DIRECT MODE switch

Use this when you want by-pass sound quality adjustment circuitry and listen to a CD or DAT in the direct mode.

#### ⑦ MUTING switch/indicator

Use when you want to temporarily cut sound during playback. Press again to return to the previous volume level.

#### ⑧ VOLUME control

#### ⑨ PHONES jack

For stereo headphones.

#### NOTE:

There is no output from the speakers when headphones are plugged into PHONES jack.

⑩ Input selector switches/indicators

[PHONO]

Press to play records on a turntable connected to the PHONO input jacks.

[TUNER]

Press to listen to radio broadcast.

[TAPE]

Press to listen to cassette tape.

[DAT]

Press to listen to a DAT playing on a digital audio tape deck connected to the DAT jacks.

[CD]

Press to listen to compact disc.

[LD]

Press to play an LD on a video disc player connected to the LD input jacks.

[VCR]

Press to play a tape on a video cassette recorder connected to the VCR jacks.

⑪ MIC (microphone) jack

This is a standard jack for connecting a microphone.

NOTE:

Mike mixing is not possible when CD DIRECT or DAT DIRECT are ON.

⑫ MIC LEVEL control

Used for adjusting the volume of microphone.

⑬ BALANCE control

Used for changing the balance between left and right channels. Usually set this control to the center position.

⑭ VIDEO SIGNAL SELECTOR switch/indicator (see page 33)

Pressing this switch lets you select video sources independent of those selected with the input selector switches. Each time you press it, the source changes.

Ⓐ This lights during listening style selector operation.

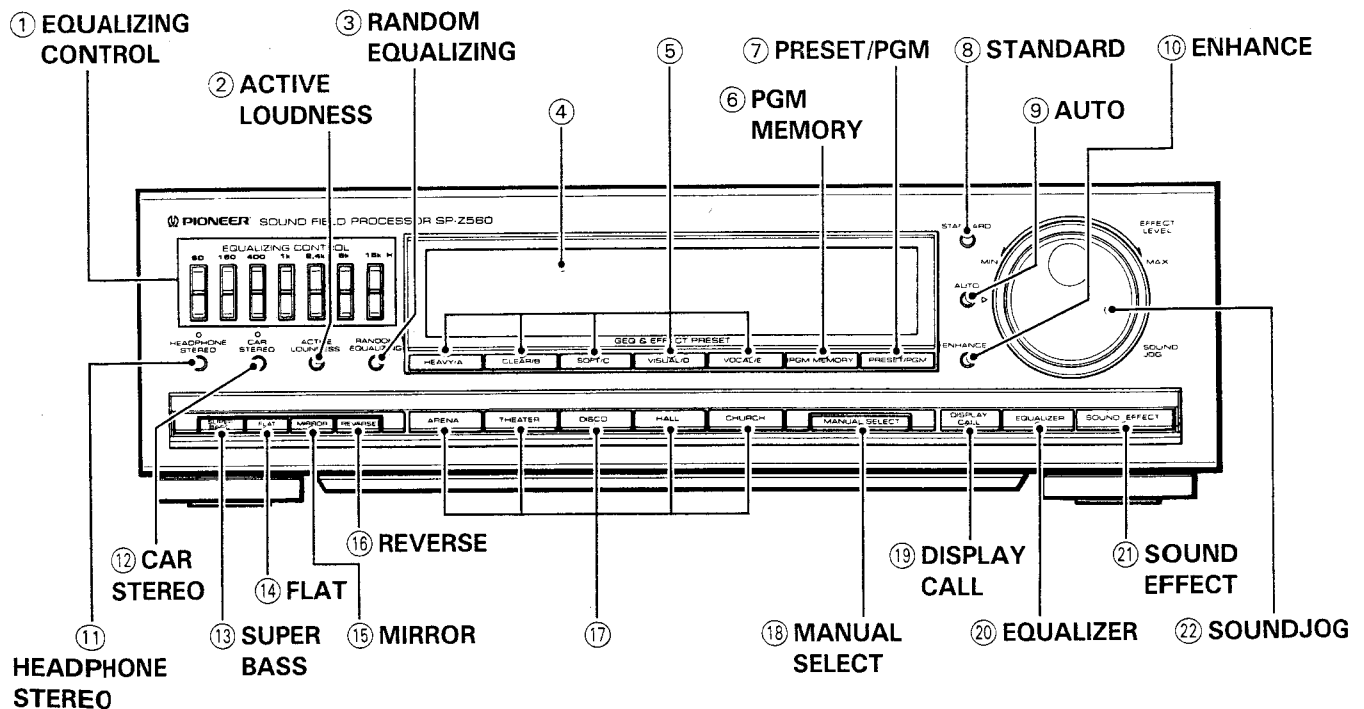
Ⓑ Information such as the component selected with the input selector switch and listening style selector position is displayed.

Ⓒ This lights when you can select CD and DAT direct mode.

Ⓓ This lights when you play a CD.

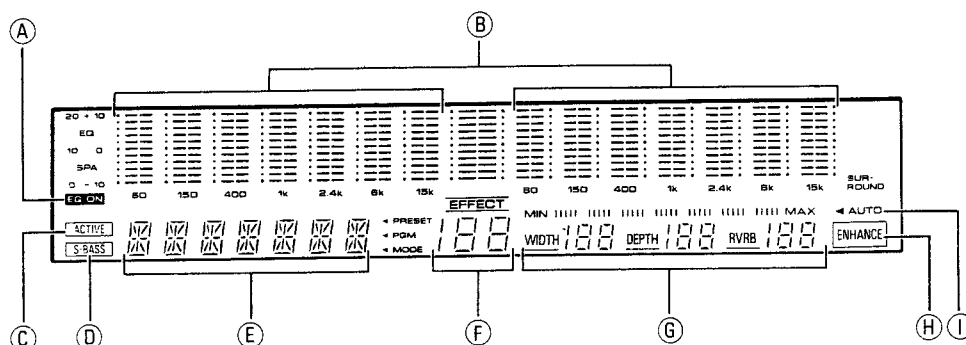
SOUND FIELD PROCESSOR SP-Z560

Front panel



## FRONT PANEL FACILITIES

### Display section



#### ① EQUALIZING CONTROL switches

Use these to adjust equalization of each frequency band.

#### ② ACTIVE LOUDNESS switch

This switches the active loudness function ON and OFF. Depending on the volume setting on the amplifier, this function automatically boosts bass and treble response.

#### ③ RANDOM EQUALIZING switch

This switches the random equalizing function ON. Random equalization patterns for the seven frequency bands are automatically created by this function.

Each time you press it, you get a new equalization pattern. If you press a switch for another operation, for example the REVERSE switch, RANDOM EQUALIZING switches OFF.

#### ④ Display section

#### ⑤ Memory recall switches

Used for recalling sound field memory.

#### ⑥ PGM MEMORY switch

Used for storing sound field you input in the memory recall switches (A - E).

#### ⑦ PRESET/PGM(PROGRAM) switch

Determines whether the sound field recalled by the Memory recall switches are your memorized curves or factory preset curves.

#### ⑧ STANDARD switch

Use this to return to the initial sound field effect level settings.

#### ⑨ AUTO switch

Use this to return to AUTO mode after operating effect level parameters manually.

#### ⑩ ENHANCE switch

This is the acoustic enhancer ON/OFF switch.

#### ⑪ HEADPHONE STEREO switch

Press this switch to recall the optimum equalization settings when recording a tape for headphone stereo listening. ENHANCE switches OFF.

#### ⑫ CAR STEREO switch

Press this switch to recall the optimum equalization settings when recording a tape for car stereo listening. ENHANCE switches ON.

#### NOTE:

When using CAR STEREO and HEADPHONE STEREO, super bass, active loudness, and enhance can be switched ON or OFF.

#### ⑬ SUPER BASS switch

Use this when you want to boost bass level. Press once more to switch it OFF.

#### ⑭ FLAT switch

Use this to make all equalization patterns flat.

#### ⑮ MIRROR switch

Press this switch to change treble and bass equalization patterns in the 1kHz frequency band.

#### ⑯ REVERSE switch

Press this switch to reverse equalization settings so that boosted frequencies will be reduced and vice versa.

#### ⑰ SOUND FIELD selector switches

Use to recall preset sound fields.

#### ⑱ MANUAL SELECT switch

Use this when you want to change sound field parameters manually.

#### ⑲ DISPLAY CALL switch

Use to switch the display mode in the display section. Spectrum analyzer, graphic equalizer, and surround (two types) display is possible.

#### ⑳ EQUALIZER switch

Turns the equalizer on and off. The EQUALIZER indicator lights when this switch is on.

#### ㉑ SOUND EFFECT switch

Use to switch sound field control ON.

#### ㉒ SOUNDJOG dial

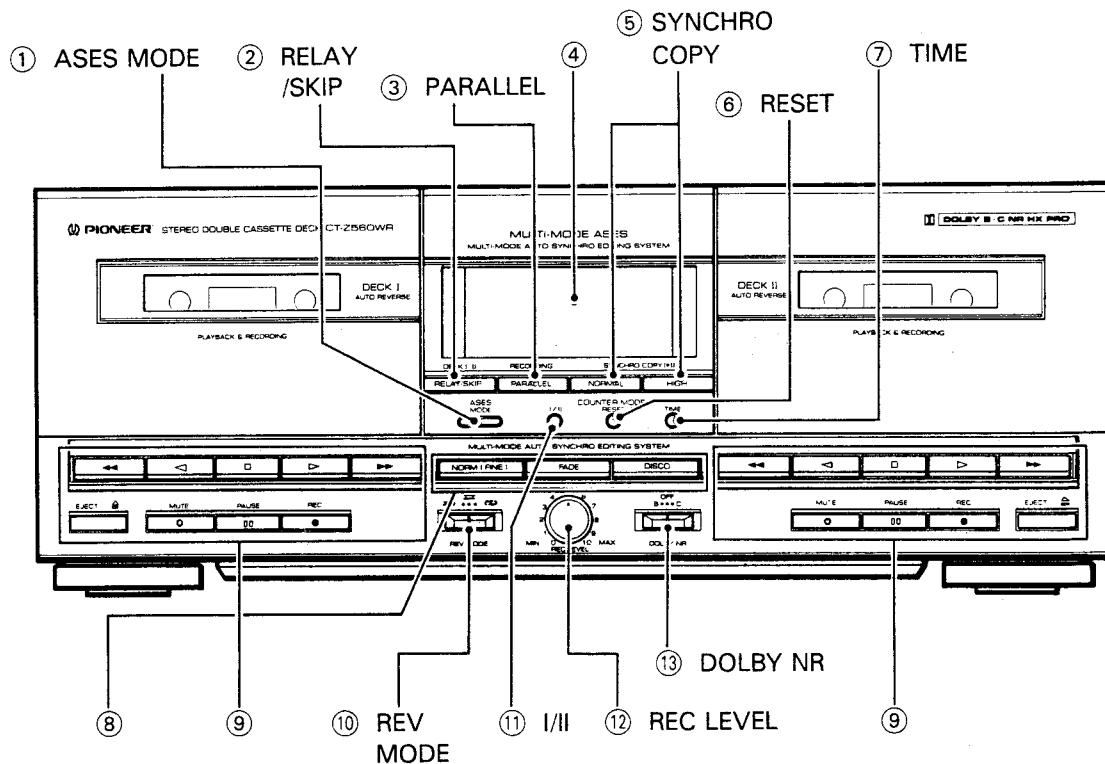
Use to adjust sound field effect level, and parameter effect level when in the manual mode.



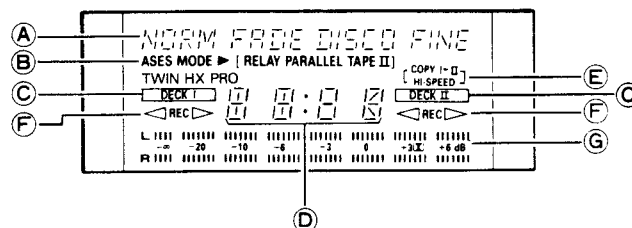
- (A) This lights when the equalizer is ON.
- (B) Visual display of spectrum analyzer, graphic equalizer, and surround characteristics.
- (C) This lights when active loudness is ON.
- (D) This lights when super bass is ON.
- (E) Displays letters.
- (F) Displays sound field control levels.
- (G) Displays sound field control parameter settings.
- (H) This lights when the ENHANCE function is ON.
- (I) This lights when the AUTO mode is selected.

## STEREO DOUBLE CASSETTE DECK CT-Z560WR

### Front panel



### Display section



## FRONT PANEL FACILITIES

### ① ASES MODE switch

Use this to select A.S.E.S. mode RELAY, PARALLEL, and TAPE II. Display in the display section is possible.

### ② RELAY/SKIP switch

Use this when you want to perform relay play from deck I to deck II, or from deck II to deck I. During relay play, if there is no sound for more than about 15 seconds, the SKIP function operates to automatically fast forward to the beginning of the next song.

### ③ PARALLEL switch

Use this when you want to start simultaneous recording from the same source on Deck I and Deck II.

### ④ Display section

### ⑤ SYNCHRO COPY (I ► II) switches

Used for tape copying.

**NORMAL:** Copying from the Deck I tape to the Deck II tape at normal recording/playback speed.

**HIGH:** Copying at about twice normal tape speed. (Copies can be made in about half the NORMAL time.)

### ⑥ Counter RESET switch

Press this switch to reset the tape counter display to 0000.

### ⑦ Counter TIME switch

Use this to switch between tape counter number display and display of elapsed time.

### ⑧ A.S.E.S. switch

Use this to select the desired type of editing you want A.S.E.S. to perform. The A.S.E.S. (Auto Synchro Editing System) function automatically edits when recording from a CD to a tape.

**NORM (FINE):** Use this to record directly from a CD.

**FADE:** This automatically fades out at the end of a tape during recording.

**DISCO:** This cross-fades between songs during recording.

**NOTE:**

- FINE is the NORM mode when performing CD player COMPU PGM EDIT (Computer Allocated Program Editing).
- The NORM(FINE) and FADE modes provide a blank space of about five seconds between songs.

### ⑨ Operation switch

- ⏏ EJECT : This ejects the cassette.
- ▶ (PLAY) : For playing back a tape in the forward mode.
- ◀ (PLAY) : For playing back a tape in the reverse mode.
- ▶▶ (FAST) : Fast forward in forward mode, rewind in reverse mode. Music search (MS) starts if this is pressed during playback.

◀◀ (FAST) : Rewind in forward mode, fast forward in reverse mode. Music search (MS) starts if this is pressed during playback.

- (STOP) : For stopping the tape.
- MUTE : Used for creating a blank space between songs.
- ⏏ PAUSE : Temporarily stops tape travel.
- REC : To set to recording standby mode. Recording begins when you press the play switch (◀ or ▶).

### ⑩ REV(reverse) MODE switch

Use this to select tape travel direction during play and record.

- ⇒ : One-sided play and record.
- ⇄ : This enables auto reverse recording and auto reverse play. If you start with the tape running in reverse, only reverse play and recording are possible.
- ↺ : This enables auto reverse recording and auto repeat play of up to 32 times. If you start with the tape running in reverse (◀) during recording, recording is only possible in that direction. When the tape ends during reverse play (◀), it counts as one repetition.

### ⑪ Counter I/II switch

Use this to switch between Deck I and Deck II counter display.

### ⑫ REC LEVEL control

Use to adjust the recording level. It adjusts the input signal level.


### ⑬ DOLBY\* NR switch

Set this switch to B or C for recording with the built-in Dolby Noise Reduction system and for playback of tapes which have been recorded using the Dolby Noise Reduction system. For other tapes, set the DOLBY NR switch to OFF.


**NOTE:**

When playing back Dolby NR-encoded tapes, always set this switch to the same position (B-type or C-type) used for recording.

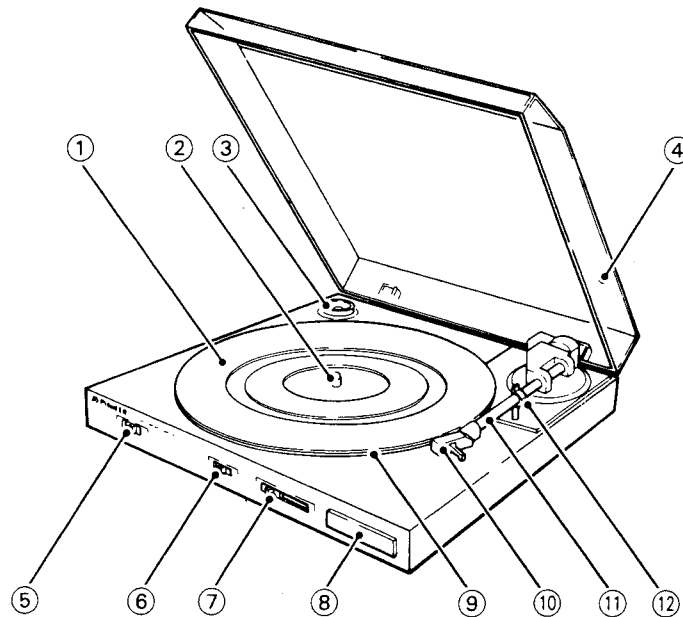
\*

- Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.
- "DOLBY", the double-D symbol  and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

- Ⓐ Displays the various A.S.E.S. Options.
- Ⓑ Displays the deck's A.S.E.S. mode.
- Ⓒ Displays the counter mode (DECK I/DECK II).
- Ⓓ Displays the counter or letters.
- Ⓔ Lights during tape copy.
- Ⓕ Displays tape travel direction.
- Ⓖ Level meter.

The  mark at the +3dB position displayed on the level meter is the Dolby NR system standard level.

## STEREO TURNTABLE PL-Z460/PL-Z560

**① Platter mat****② Platter spindle****③ EP adaptor**

Place over the spindle to play 45-rpm singles.

**④ Dust cover****⑤ SPEED switch**

Set this switch in accordance with the speed of the record.

**33:** For 33-1/3 rpm records.

**45:** For 45 rpm records.

**⑥ SIZE switch (PL-Z560 only)**

Set this switch in accordance with the size of the record.

**30:** For 30 cm records.

**17:** For 17 cm records.

**⑦ ARM-ELEVATION switch**

- For manual play.
- To suspend record play temporarily.
- For changing the tracks during actual play.

[UP]: The tonearm rises (the stylus moves away from the record.)

[DOWN]: The tonearm descends (the stylus is lowered onto the record.)

**⑧ PLAY/STOP switch (PL-Z560 only)**

Press this switch when starting auto play or when stopping play.

*NOTE:*

*Be sure to press the switch firmly when starting playback: if not pressed firmly, the platter may rotate without the tonearm moving.*

**⑧ STOP switch (PL-Z460 only)**

Press this switch when stopping play.

**⑨ Platter****⑩ Cartridge****⑪ Tonearm****⑫ Arm rest**

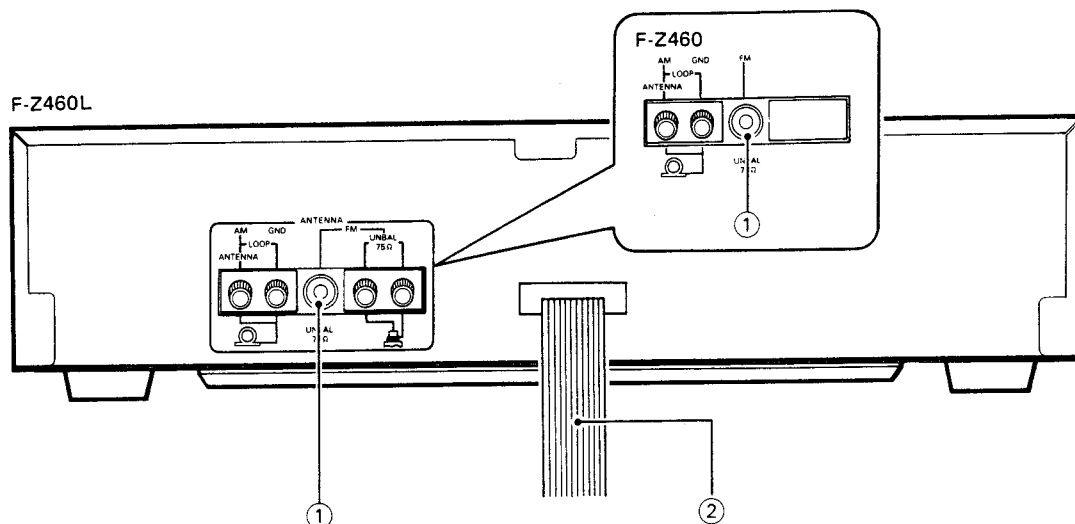
*NOTE:*

*Illustration shows PL-Z560.*

*PL-Z460 is not equipped with SIZE switch.*

# REAR PANEL FACILITIES

## FM/AM DIGITAL SYNTHESIZER TUNER F-Z460L/F-Z460



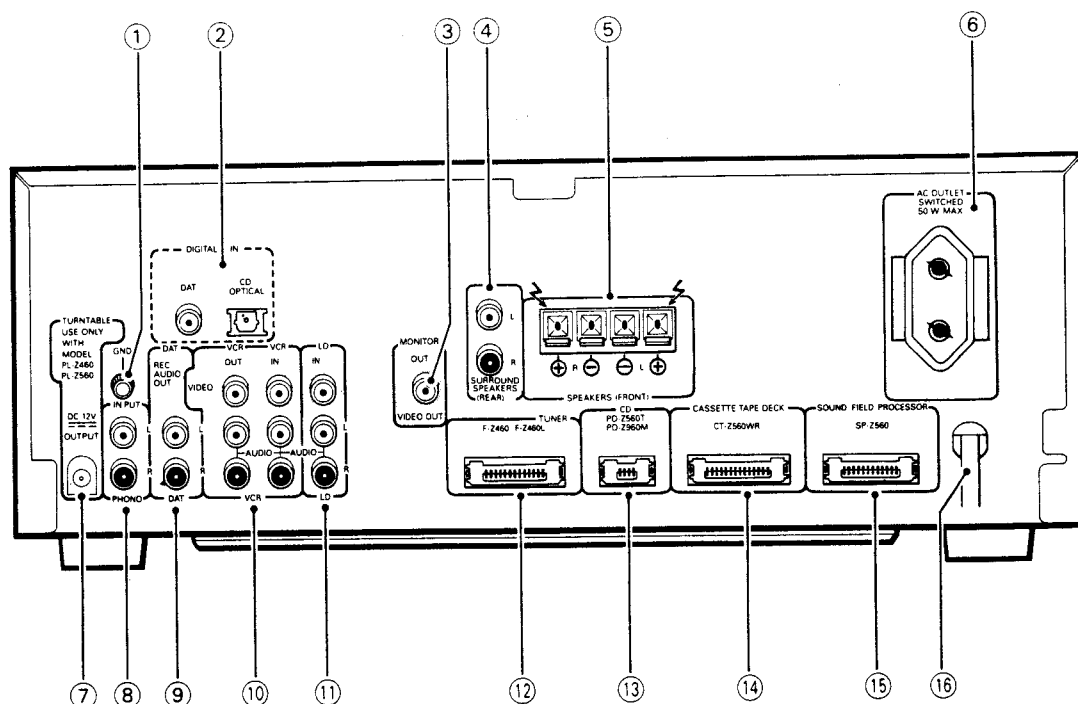
### ① FM/AM ANTENNA terminals

Antennas must be connected to these terminals: otherwise you will not be able to receive stations. See page 11 for details on ANTENNA CONNECTIONS.

### ② TUNER input/output cord

Connect to the TUNER jack of the amplifier.

## STEREO AMPLIFIER A-Z560



# ① Ground terminal (GND)

Connect this to the ground terminal on the turntable (except for PL-Z560/PL-Z460).

# ② DIGITAL IN jacks

## [DAT]

A digital audio tape deck's digital output jack (coaxial cable output) can be connected here.

Consult with your dealer to see if it's possible to connect your digital audio tape deck.

## [CD]

Connect a CD player's OPTICAL OUT jack.

# ③ MONITOR OUT jack

You can connect a TV with a video input jack or monitor TV here. The picture from a video disc player or video cassette recorder connected to the video input jack is output.

# ④ SURROUND SPEAKERS jacks

Connect the Surround speaker systems.

## NOTE:

Connect a speaker system having a nominal impedance of 16  $\Omega$  or more.

# ⑤ SPEAKERS terminals

L: Connect the left speaker system as seen from the listening position.

R: Connect the right speaker system as seen from the listening position.

## NOTE:

Connect a speaker system having a nominal impedance ranging from 6  $\Omega$  to 16  $\Omega$ .

# ⑥ AC OUTLET (SWITCHED 50 W MAX)

Power supplied through this outlet is turned on and off by the amplifier's POWER switch. Total electrical power consumption of connected equipment should not exceed 50 W.

## NOTE:

Do not connect appliances with high power consumption such as heaters, irons, or television sets to the AC OUTLET in order to avoid overheating or fire risk.

This can cause the amplifier to malfunction.

# ⑦ TURNTABLE (DC 12V OUTPUT) jack

This jack supplies power to the turntable.

# ⑧ PHONO input jacks

Connect the output cord of the turntable to these jacks.

# ⑨ DAT REC OUT jacks

Connect to audio input jacks of the digital audio tape deck.

# ⑩ VCR jacks

IN: Connect to the audio and video output jack of VCR.

OUT: Connect to audio and video input jacks of VCR.

# ⑪ LD input jacks

Connect to audio and video output jacks of the videodisc player.

# ⑫ TUNER jack

Connect the tuner cord here.

# ⑬ CD jack

Connect the compact disc player cord here.

# ⑭ CASSETTE TAPE DECK jack

Connect the cassette deck cord here.

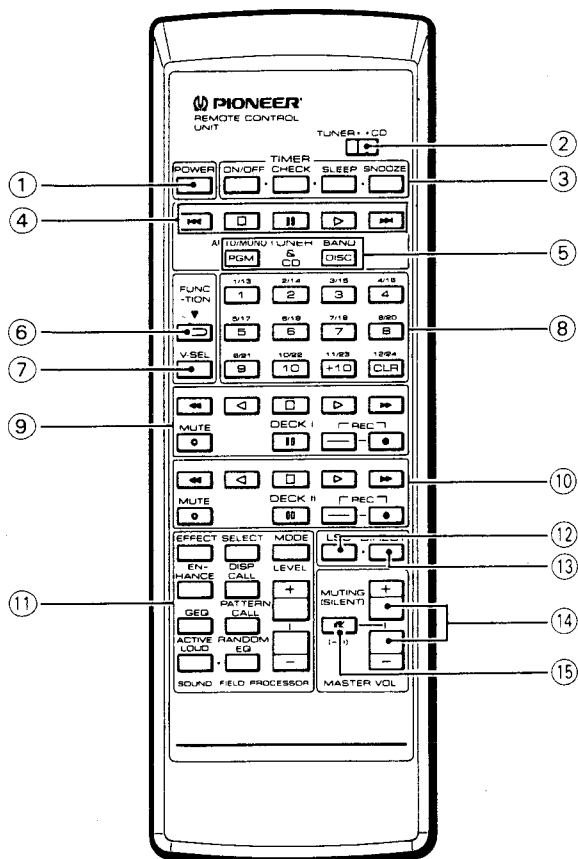
# ⑮ SOUND FIELD PROCESSOR jack

Connect the sound field processor cord here.

# ⑯ Power cord

Connect this to the AC wall socket.

# REMOTE CONTROL UNIT FACILITIES



## ① POWER key

## ② TUNER/CD switch

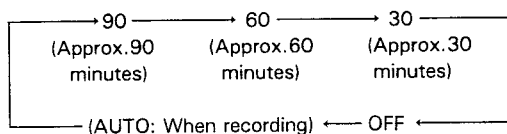
Use this switch to select between using the AUTO/MONO/PGM and BAND/DISC keys ⑤, and the number keys ⑧, to operate either the CD player or the tuner.

## ③ TIMER operation keys

**ON/OFF:** Use this to switch timer setting operation on and off.

**CHECK:** Use to check the timer settings.

**SLEEP:** Sets the sleep timer. Each time you press this key, the setting changes as shown here. The current setting is shown on the tuner display. Power turns off when your set time has elapsed. (see page 33).



If you press the SLEEP key again during SLEEP operation, the timer will operate from the new setting displayed.

**SNOOZE:** Turns off power if pressed after timer playback begins. Timer playback begins again approx. 5 minutes later.

## ④ CD player operation keys

- ◀▶ : Track search
- : Stop
- ⏸ : Pause
- ▶ : Play

## ⑤ TUNER/CD player operation keys

- When the TUNER/CD switch is in the CD position, use the PGM key to enter a CD player program. Use the DISC key to select between CD player discs.
- When the TUNER/CD player switch is in the TUNER position, use the BAND key to select between the FM and AM band. FM MONO can be selected with the AUTO/MONO key.

## ⑥ FUNCTION keys

Each time you press this key, the amplifier function (Input selector) changes.

The amplifier function (input selector) automatically switches to the music source being operated when you press the CD playback (▶), cassette tape deck playback (◀, ▶), or tuner station controls.

## ⑦ V-SEL (video selector) key

Switches the picture, leaving the sound as it is.

When you are using an audio function, it changes in the following order.



When you are using a video function, it changes in the following order.



## ⑧ Number keys

- When the TUNER/CD switch is in the CD position, use keys 1 to 10 as track number keys. Use the 22/+ 10 key to specify track numbers over ten (for example, to specify track 15, press the 11/+ 10 key and then press key 5). The 12/CLR can be used as a clear key.
- When the TUNER/CD switch is in the TUNER position, use keys 1 to 12 as station call keys. Press it once to call stations 1 to 12, and press it twice to call stations 13 to 24.

## ⑨ Deck I operation keys

Use these in the same way as the operation switches on the front panel of the cassette deck. To record however, press two REC keys at the same time.

## ⑩ Deck II operation keys

Use these in the same way as the operation switches on the front panel of the cassette deck. To record however, press two REC keys at the same time.

## ⑪ Sound field processor key

- EFFECT:** Switches sound effect ON/OFF.
- DISP CALL:** Switches the display mode.
- MODE:** Recalls auto mode and manual mode parameters one after another.
- SELECT:** Recalls sound fields.
- ENHANCE:** This is the acoustic enhancer ON/OFF switch.
- PATTERN CALL:** Recalls patterns memorized in the memory recall switches.
- GEO:** Switches the graphic equalizer ON/OFF.
- ACTIVE LOUD:** Switches active loudness ON/OFF.
- RANDOM EQ:** Switches random equalizing ON.
- LEVEL +, -:** Increases + and decreases - effect levels.

## ⑫ LSS key

Each time you press this key, a listening style is recalled, changing one after another from BGM to NIGHT to PURE.

## ⑬ DIRECT key

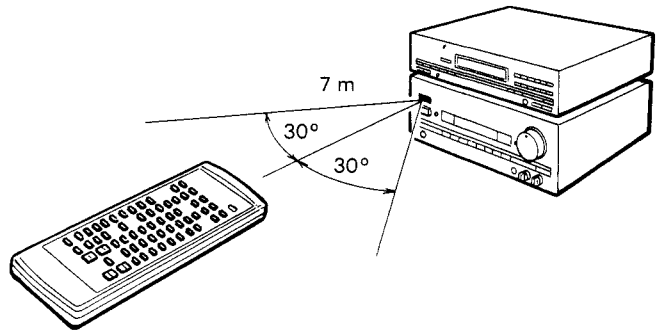
When selecting between CD and DAT with the FUNCTION (Input selector), you can use this to switch the DIRECT mode (CD DIRECT, DAT DIRECT) ON and OFF.

## ⑭ VOLUME + (UP)/- (DOWN) keys

## ⑮ MUTING key

### NOTE:

- If the remote control unit will not be used for a long time (1 month or more), remove the batteries to avoid battery leakage. If fluid should ever leak from batteries, wipe away the fluid and then install new batteries.
- Do not put books etc. on top of the remote control unit. If keys are continuously depressed, the batteries will run down.
- If the operating range decreases, the batteries have probably run down. Please replace with new batteries.



### Range of remote control

When the remote control unit is pointed at the remote sensor window on the amplifier and any of its keys is pressed, the amplifier and other components can be operated by remote control.

Distance: Within a range of approx. 7 meters from the remote sensor window on the amplifier.

Angle: Within approx. 30 degrees from the center of the remote sensor window on the amplifier.

Remote control will not be possible if there is an obstacle between the remote control unit itself and the remote sensor window on the amplifier.

Performance of the remote control unit is adversely affected in the presence of strong fluorescent light. Keep such lights away, especially from the sensor window.

# HOW TO HANDLE CASSETTE TAPES

**Bear in mind the following points before loading cassette tapes.**

**Is the tape loose, or is some of the tape outside the cassette?**

If some of the tape is projecting outside the cassette shell or if it is loose, it may not feed between the capstan and pinch roller. This will prevent the tape from being transported or damage the tape itself. In cases like these, insert a pencil into the reel hole and take up the slack. (Fig. A) Some cassette tapes come with a plastic or thick paper stopper which prevents tape slack. Remove this stopper when loading the tape and replace it after having used the cassette.

**What are the accidental erasure prevention tabs for?**

A cassette is provided with these tabs so that important recordings will not be erased accidentally. When the tab (Fig. B) on the cassette shell is broken out with the tip of a screwdriver, it will not be possible to activate the recording function even by pressing the recording (REC) switch, so valuable recordings will not be erased in error.

To re-record on a cassette whose tabs have been broken out, simply stick a piece of doubled adhesive tape over the tab areas, as shown in Fig. C.

**NOTE:**

The accidental erasure prevention tabs are located at the top left on both sides A and B (or 1 and 2), so that material on each side can be prevented from being erased in error.

## Tips on using cassette tapes

- Leader tape (which does not allow sound to be recorded over it) is provided at the beginning of a cassette tape. Start recording after allowing the tape to run for approx. 5 seconds so that the leader tape clears the recording head.
- Do not leave a cassette tape exposed to the environment. Store the cassette in its case so that dust and dirt do not adhere to the tape after use, and so that the tape is prevented from becoming slack. Choose a location which is not exposed to the effects of magnetism, dust, dirt and oil for storing the tapes.
- Because C-120 tapes are so thin, they easily jam in the pinch roller and capstan, and they are susceptible to other trouble such as irregular winding. Try not to use them with this unit. Use tapes of 90 minutes or less.

Fig.A

How to take up tape slack.

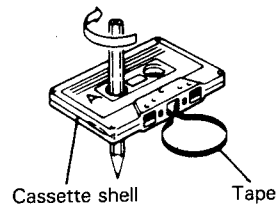


Fig.B

How to prevent already recorded tapes from being erased

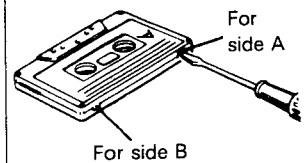
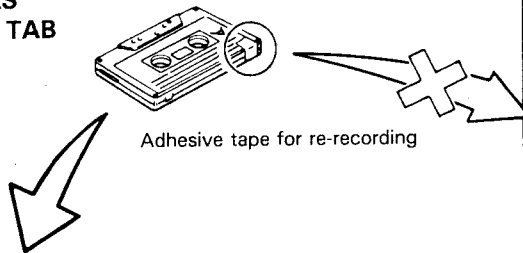


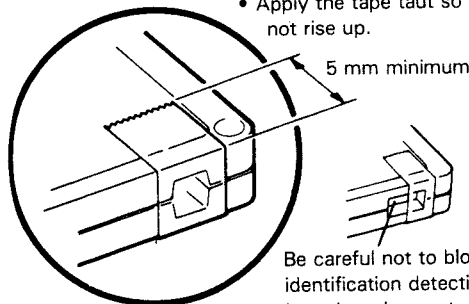
Fig. C

**NOTE FOR RE-RECORDING ON A CASSETTE TAPE WHICH HAS A BROKEN TAB**



### CORRECT METHOD OF APPLYING TAPE

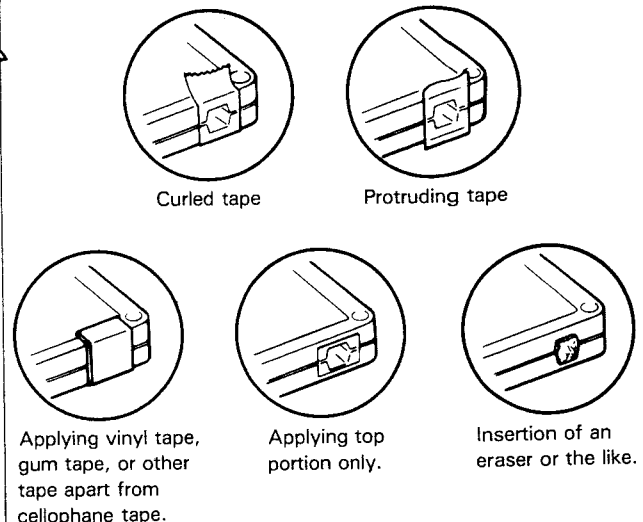
- Apply two layers of cellophane tape.
- Apply the tape taut so that it does not rise up.



Be careful not to block the tape identification detection hole (metal or chrome tape).

### INCORRECT METHOD OF APPLYING TAPE

THIS MAY RESULT IN AN ACCIDENT



After removing the cellophane tape, completely wipe away all traces of paste. Use only alcohol.



# BASIC OPERATIONS

Switch numbers used in the following explanation refer to the numbers appearing in the FRONT PANEL FACILITIES section on pages 12 - 19.

## SETTING THE CLOCK (Tuner operation)

This unit has a 24-hour clock display.

[Example] To set for 19:15, March 20, 1990.  
(See page 7, Fig. 14.)

1. Press CLOCK ADJ switch ⑫.
2. Select MAR (March) using "--" and "+" switches ②.
3. Press SET/NEXT switch ⑪.
4. Select the date, in this case 20, using "--" and "+" switches ②.
5. Press SET/NEXT switch ⑪.
6. Select the year, in this case 1990, using "--" and "+" switches ②.
7. Press SET/NEXT switch ⑪.
8. Select the hour, in this case 19, using "--" and "+" switches ②.
9. Press SET/NEXT switch ⑪.
10. Select the minutes, in this case 15, using "--" and "+" switches ②.
11. For precise adjustment, press SET/NEXT switch ⑪ when "00" seconds is displayed for that particular number of minutes.

- After connecting to an AC outlet, be sure to set the present time. Timer playback and timer recording are not possible unless the time has been set.
- The time indication will appear as "--:--" if the AC power cord is unplugged. Be sure to set the time again after power has resumed.

### NOTE:

- The name of the day is automatically set.
- Year display and settings are possible from 1989 to 2088.
- Months are displayed as follows.

January _____	JAN	July _____	JUL
February _____	FEB	August _____	AUG
March _____	MAR	September _____	SEP
April _____	APR	October _____	OCT
May _____	MAY	November _____	NOV
June _____	JUN	December _____	DEC

## PREPARATION

- Press POWER switch of the amplifier.
- Confirm that MUTING switch is OFF.

It's OFF when MUTING indicator is out. If you switch MUTING switch ON, the indicator flashes and the sound goes out.

- Select an input selector switch.

When you want to listen to a CD or DAT directly without passing the signal through circuitry such as equalization, switch ON the DIRECT MODE.

### NOTE:

This model is equipped with "auto function" operation, so when the switch for playing CD, tape, or tuner is pressed, the amplifier input selector switches automatically.  
With other components, select the function with the input selector switch.

## Adjusting volume level, sound quality, and balance. (Amplifier operation)

- Adjust volume level with the VOLUME control ⑧.
- Adjust left and right balance with the BALANCE control ⑩.

### NOTE:

- When the CD DIRECT or DAT DIRECT is on, you cannot use the sound quality adjustment function.
- Input selectors cannot be switched during recording. (Auto function does not operate either.)

## When you have finished using this unit:

If you switch the amplifier's POWER switch ① to STANDBY position, power to other components will also be switched off.

## TUNING INTO STATIONS (Tuner operation)

1. Select the desired broadcasting band using BAND selector switch ⑬.
2. Press "+" or "--" TUNING switch ⑥ for higher or lower frequencies.

### [Auto tuning]

Press TUNING "--" or "+" switch until the frequency starts to change, then release it.

The tuner automatically searches for a broadcasting station, and stops when one is found, and the TUNE indicator lights up. To search for another station, press again.

- To interrupt auto tuning, press TUNING switch again.

### NOTE FOR F-Z460L:

Auto tuning is not possible on the LW band.

### NOTE:

When auto tuning is in use, reception may not be possible for distant stations or when signals are weak. At these times manual tuning is recommended.

### [Manual tuning]

Press TUNING "--" or "+" switch and release quickly.

The tuning frequency will change by one step each time the switch is pressed. Press as many times as necessary to tune in the desired station. The TUNE indicator lights up when the station is tuned in best.

If you keep TUNING switch depressed after the frequency has begun to change, the reception frequency changes continuously, and stop when the switch is released.

## • STEREO indicator

This lights when receiving a stereo FM broadcast.

## • MONO indicator

If you are listening to an FM stereo broadcast a long way from the broadcast station, in an area where the broadcast signal is weak, or when there is a lot of noise, select MONO by pressing the FM MONO switch. You'll then be listening in mono, but it will be much clearer.

## • LOCAL indicator

If the broadcast station is very near, the FM broadcast signal may be too strong, resulting in noise and distortion. In this case, press LOCAL switch. LOCAL indicator lights.

## MEMORIZING STATIONS (Tuner operation)

(Page 7, diagram 15)

### Presetting

Up to 24 FM/AM stations can be memorized at random. Press a STATION CALL switch once for Mode 1 (1 - 12) and twice for Mode 2 (13 - 24).

1. **Tune in desired station.**  
(If the station is FM, then the current FM MONO, and LOCAL switch setting are included in the memory.)
2. **Press MEMORY switch ⑤.**
  - The display will flash (about 7 seconds).
3. **Press a STATION CALL switch ⑦.**
  - While the display is flashing, press a STATION CALL switch in which you wish to memorize the station.

**When memorizing a station in Mode 1 (e.g. memorizing a station to No. 9):**

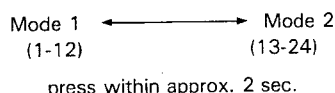
By pressing STATION CALL switch once, the station will be preset to Mode 1.

**When memorizing a station in Mode 2 (e.g. memorizing a station to No. 21):**

Mode 2 stations are memorized by pressing STATION CALL switch twice within approx. 2 seconds.

### NOTE:

- Pressing STATION CALL switch within about 2 seconds switches alternately between Mode 1 and Mode 2.



- After you press STATION CALL switch, the display will flash for approx. 2 seconds, then the station will be memorized. If you press another switch while the display is flashing, the station will not be memorized.

## RECEPTION USING PRESET TUNING

(Tuner operation)

1. Press STATION CALL switch ⑦ into which the desired station has been memorized.

### NOTE:

- The contents of STATION CALL switches will be preserved for several days, even if the amplifier's power cord is unplugged. If a memorized station has been erased, memorize it again.

### Last station memory

The last received AM and FM stations remain stored despite FUNCTION and/or POWER switching. To recall, use BAND selector switches.

### Memory Scan function

Station frequencies assigned to STATION CALL switches are tuned in, one after another, beginning with the current station no., for approximately 5 seconds each. Press MEMORY SCAN switch again and the tuner remains tuned in to the station playing when the switch was pressed the second time.

## RECORD PLAY (Turntable PL-Z460)

1. Set the input selector switch on the amplifier to PHONO.
2. Place record on the platter mat.
3. Remove the stylus cover and release the tonearm from the arm rest.
4. Set SPEED switch ⑤.
5. Set ARM-ELEVATION switch ⑦ to UP position.
6. Move the tonearm manually across the record.
  - At this stage, the platter starts to rotate.
7. Set ARM-ELEVATION switch ⑦ to DOWN position.
8. To stop the player while a record is being played, press STOP switch ⑧.

## RECORD PLAY (Turntable PL-Z560)

### Auto play

1. Set the input selector switch on the amplifier to PHONO.
2. Place record on the platter mat.
3. Remove the stylus cover and release the tonearm from the arm rest.
4. Set SPEED ⑤ and SIZE ⑥ switches.
5. Move ARM-ELEVATION switch ⑦ to DOWN position.
6. Push PLAY/STOP switch ⑧ to start record play.

### NOTE:

- When play is completed, the tonearm will return automatically to the arm rest.
- When playing 45-rpm records with large center holes, place the EP adaptor onto the platter spindle.

7. To stop the player while a record is being played, press PLAY/STOP switch ⑧.

### Manual play

1. Set the input selector switch on the amplifier to PHONO.
2. Place record on the platter mat.
3. Remove the stylus cover and release the tonearm from the arm rest.
4. Set SPEED switch ⑤.
5. Set ARM-ELEVATION switch ⑦ to UP position.
6. Move the tonearm manually to the desired position over the record.
7. Set ARM-ELEVATION switch ⑦ to DOWN position.
  - The tonearm descends onto the record and playback starts.
8. To stop the player while a record is being played, press PLAY/STOP switch ⑧.

## TAPE PLAY (Cassette deck operation)

Tapes may be played back in deck I or deck II but not in both decks at the same time.

1. Press EJECT switch, and load a recorded tape.
2. Set DOLBY NR switch ⑬ to the same position used for recording.
3. Select REV MODE switch ⑩.
  - ⏮ : For one-sided play on Deck I or Deck II.
  - ⏪ : For repeat play of both sides on Deck I or Deck II. (Up to 32 repeats)
  - ⏩ : For one-time forward play followed by one-time reverse play with Deck I or Deck II.
4. Press the appropriate PLAY (▶ or ◀) switch.
5. To stop playback, press STOP (□) switch.

### Auto Stop Mechanism

The mechanism stops automatically when the end of tape is reached.

#### NOTE:

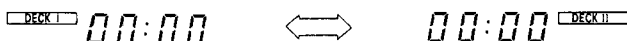
- When **PLAY** switch of one deck is pressed while the other deck is in playback mode, the former stops and the latter starts playback.
- When playing back a tape you have recorded on, you'll get a better sound if you play it back on the same side you recorded it on. (For example, if you record on a cassette inserted with the A side facing outwards, you should also have the A side facing outwards when you play it back.)
- If the power is cut when the tape is moving, the cassette door may not open. If this happens, turn on the power once more, and press **EJECT** switch.
- Press **EJECT** switch after you have checked that the deck has stopped operating.

### Counter switch

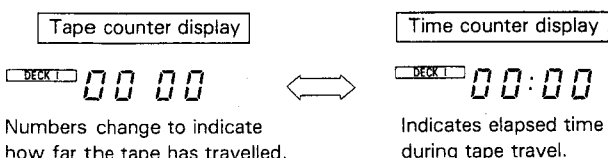
The counter functions as a normal tape counter and also as a time counter, displaying elapsed time. Use this switch to select either of these two functions.

The tape counter only displays information for the deck the tape is inserted in. If tapes are inserted in both decks, only information concerning the deck with the tape inserted last is displayed information.

- When there are tapes in both decks, use the **I/II** switch (11) to select which deck's counter display you want to see.



- Select between tape counter and time counter using **TIME** switch (7).



Numbers change to indicate how far the tape has travelled.

Indicates elapsed time during tape travel.

- Press **RESET** switch (6) to reset the counter.

#### NOTE:

- The time counter only displays elapsed time during recording and playback. If you fast forward during either, the time counter stops, and it switches to the tape counter. During music search, it changes to **P-xx** display. (Numbers are displayed in **xx**.) If you start recording or playback again, the time counter will resume operating.
- When recording from a **CD** or other source, the time counter on the deck and the time display on the **CD** player or other source may show slightly different values.

## RECORDING ONTO A CASSETTE TAPE

### (Cassette tape deck operation)

You can record on **DECK I** and/or **Deck II**. (See page 30 for details on relay recording from **Deck I** to **Deck II**. And parallel recording on **Deck I** and **Deck II**.) If you turn on the sound field processor then you can record the equalized sound. (The sound field processor doesn't operate when the stereo amplifier's **DIRECT** switch is **ON**.) Here we will explain how to record on **Deck II**. Use the same procedure to record on **Deck I**.

1. Press **EJECT** switch, and load the tape for recording into **deck II**.
  - Check to see that the accidental erasure prevention tabs are not broken off.
  - Make sure that there is no tape slack.

2. Set **DOLBY NR** switch (13) to the desired position.

- A tape which has been recorded using the **DOLBY NR** system must be played back with the same system "**ON**".

3. Select **REV MODE** switch (10).

To perform reverse recording, use the or . And be sure to start recording in the forward direction ().

4. Use the input selector switch on the amplifier to select and play the recording source.

Program source	Selected indicator	Operation
Record	PHONO	Operate the turntable
Radio Broadcast	TUNER	Tune into a broadcast
Digital audio tape	DAT	Play a tape in the digital audio tape deck
Compact disc	CD	Play a compact disc
Video disc sound	LD	Play a video disc
VCR sound	VCR	Play a tape in the VCR

5. Adjust sound quality with the sound field processor.

6. Press **REC** (●) switch (9).

- You're now in pause ready to record.
- The **REC** indicator lights.
- The play indicator ( or ) flashes.

7. Adjust recording level with **REC LEVEL** control (12).

- Adjust so that **0dB** on the level meter lights. It doesn't matter if +6dB lights momentarily.

8. Press **PAUSE** (□) or the appropriate **PLAY** (, ) switch (9).

9. To stop recording, press **STOP** (□) switch (9).

#### NOTE:

- The input selector cannot be switched during recording.
- Sound quality cannot be altered with the sound field processor during recording.
- When listening to a **CD** or **DAT**, the sound is not affected by the sound field processor if **DIRECT** switch is **ON**.
- During recording and playback, the way the level meter lights may differ depending on the sensitivity of the tape. Small differences, however, don't cause any problems.

### Auto reverse function

This unit uses rotary type recording and playback heads, and the same heads are used in both forward and reverse directions. Tape end detection is employed to activate auto reverse operation which takes approx. 2 seconds after the tape is taken up.

#### NOTE:

A leader tape having a length equivalent to approx. 5 seconds is attached to an ordinary cassette tape. This means that for two-way travel of the leader tape there will be a break of approx. 12 seconds in the sound. Be very careful of this, particularly when making a two-way recording.

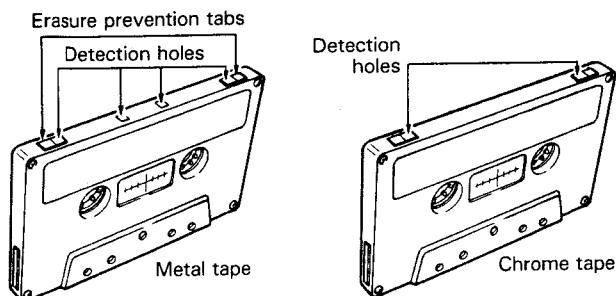
### Pausing and restarting recording

1. Press **PAUSE** (□) switch (9).
  - Recording will be suspended.
2. To restart recording again, press **PAUSE** (□) switch (9).

## BASIC OPERATIONS

### Auto tape selector

Detection holes on a cassette tape distinguish between different kinds of tape. The ideal recording bias and equalization are automatically set depending on the kind of tape.



### Recording level control

Recording level adjustment is the most important factor in achieving good recording results. A high recording level helps to improve the signal-to-noise ratio and dynamic range, but if excessively high it will cause distortion. On the other hand, if the level is set too low out of fear of distorting the sound, an irritating tape hiss noise will become noticeable in the recording. Although tape characteristics differ depending on the maker and kind of tape, even with tapes of the same position, you can get the most of any tape and obtain good recordings if you adjust the recording level to a value close to the characteristics of the tape.

### Recording muting

Use this function to create the 4 seconds blanks required for the music search operation.

- Press MUTE ( ) switch ⑨ during recording, and the unit will stop recording sound on the tape for about 4 seconds and will enter the recording pause mode.
- To create a blank more than 4-seconds long, hold the switch down for the desired time. The unit will enter the recording pause mode when you release the switch.
- To resume recording, press PAUSE ( ) switch ⑨.

### The Dolby NR Systems

The Dolby NR Systems are designed to reduce high-frequency tape hiss noise generated during playback.

The level of low-volume, high-frequency sounds is increased during recording, and decreased by the same amount during playback to restore the original level. At the same time, high-frequency noise (the most easily perceived by the human ear) is attenuated.

Dolby B-type NR system reduces high-frequency tape noise, widening the dynamic range. Dolby C-type NR system is even more powerful, applying the noise reduction effect to a wider spectrum of frequencies from the middle range.

#### NOTE:

Avoid playing back tapes reduced using the Dolby NR system with DOLBY NR switch in the OFF position, or tapes recorded without Dolby NR system with DOLBY NR switch in the ON position (B-type or C-type), since this does not allow faithful reproduction of the original sound.

### Dolby HX Pro headroom extension system

The Dolby HX Pro system controls the bias current during recording and always keeps it at an optimum level according to the high-frequency components of the music signal. It therefore allows excellent recordings even of digital sources which contain a large amount of strong, high-frequency components. The Dolby HX Pro effect is obtained independently from the Dolby NR setting (B-type, C-type or OFF). Furthermore, since the system is used only during recording, an improvement of sound can be achieved even if tapes recorded with Dolby HX Pro are played back with a deck, radio cassette recorder or car stereo system not equipped with DOLBY HX PRO. To guarantee optimum recording results, the HX Pro system of this unit automatically achieved during recording.

### Erasing

If you record on a tape, previously recorded material is erased. Perform the following operations if you only want to erase.

1. Load the tape to be erased in the deck.
2. Set REC LEVEL control ⑫ to (MIN).
3. Start recording.

## CASSETTE TAPE RELAY PLAYBACK

Relay playback is possible from Deck I to Deck II, or from Deck II to Deck I. When playback ends on one deck, the other deck automatically starts playing.

1. Load the playback tapes into Deck I and Deck II.
2. Set DOLBY NR switch ⑬ to the same position used for recording.
  - The tapes on Deck I and Deck II should both have been recorded with or without Dolby NR, and you should be sure that the switch is in the same position it was in during recording.

3. Select REV MODE switch ⑩.

: Deck I (II) reverse ( ) or forward ( ) → Deck II (I) reverse ( ) or forward ( ).

: Deck I forward ( ) → Deck I reverse ( ) → Deck II forward ( ) → Deck II reverse ( ).

While one deck is playing, you can change the tape in the other deck for extended relay play.

: Deck I forward ( ) → Deck I reverse ( ) → Deck II forward ( ) → Deck II reverse ( ), repeated for 32 sides.

4. Press RELAY/SKIP switch ②.

"RELAY" lights in the display section.

5. Press the appropriate PLAY ( or ) switch.

Press the switch on the deck that plays first.

To cancel relay playback, press RELAY/SKIP switch once more.

To stop during playback, press STOP ( ) switch on the deck that's playing.

#### NOTE:

- In relay playback, if there is a blank space longer than about 15 seconds, the blank skip function operates, automatically skipping to the start of the next song where playback resumes
- In timer playback, playback is always relay.

## COPYING TAPES

Duplicating the recorded contents of one tape onto another tape is known as tape copying. The contents of the tape in Deck I can be copied onto the tape in Deck II (but not vice versa.) Copying is not possible while either deck is operating.

The Deck II tape will be identical copy of the Deck I tape regardless of DOLBY NR switch ⑬ position.

For example, when copying a Dolby C-type NR encoded tape, the Deck II tape is also recorded with Dolby C-type NR.

### 1. Load the recorded tape into Deck I and the tape for recording into Deck II.

- Wind the tape forward past the leader to the start of the magnetic coating portion.
- Tape copying begins from the forward direction (▷).

### 2. Select REV MODE switch ⑩.

⎓ : When copying on one side of a tape.

↔ and ⎓ : When copying on one side of the tape and then on the other.

When the tape on one deck ends, the tape copy mode is canceled, so be sure to use tapes of about the same length.

### 3. Press one of SYNCHRO COPY switches ⑤.

**NORMAL:** for tape copying at normal speed while listening to it.

**HIGH:** for tape copying at about twice normal speed.

"COPY I ▷ II" lights in the display section. If you have selected HIGH, "HI-SPEED" lights.

When performing NORMAL copy, you can use MUTE (●) and PAUSE (⏏) switches on Deck II to carry out simple editing.

#### NOTE:

- When copying tapes, recording level adjustment is unnecessary.
- Copying tapes has nothing to do with the amplifier input selector. So you can listen to any program source selected with the amplifier input selector through your speakers.
- When listening to the tape during copying, select DOLBY NR switch and the stereo amplifier input selector to TAPE.
- When copying, STOP(□) switch is the only operation switch that functions.
- To stop during copying, press STOP(□) switch on Deck I or Deck II.

#### [Precautions During High Speed Copying]

- If you are copying near a TV, interference, heard as a high-pitched sound, may be recorded on the tape. If this happens, copy at normal speed, or turn off to the TV.

## BLANK SKIP

This function skips any long blank sections on a tape, and starts playback again at the beginning of the next song.

1. Load the playback tape into deck I or deck II.
2. Press the appropriate PLAY (▷ or ◁) switch ⑨.
3. Press RELAY/SKIP switch ②.

During playback, if a blank section longer than about 15 seconds is detected, the fast (search) function operates, starting playback again at the beginning of the next recorded section.

If you start forward (▷) play when the reverse mode switch is ⎓, up to 32 sides will be repeated.

If you want to stop during blank skip operation, press RELAY/SKIP switch.

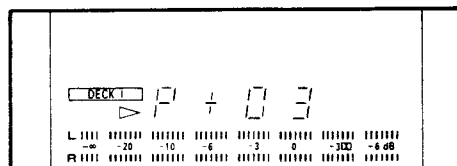
## MUSIC SEARCH

This function lets you search for a song during fast forward and fast reverse. You can search up to a maximum of 15 songs before or after the song you are listening to.

### • When searching during forward (▷) playback:

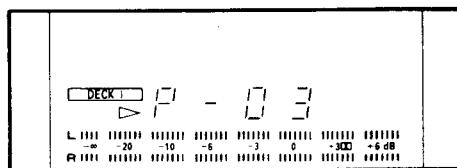
To search for a song that comes before the one you are listening to, press "▶▶" switch the same number of times as the number of songs you want to skip.

(Example) If you press "▶▶" three times



Perform reverse search by pressing "◀◀" the desired number of times plus one.

(Example) If you press "◀◀" three times



### • When searching during reverse (◁) playback

To search for a song that comes before the one you are listening to, press "◀◀" switch the same number of times as the number of songs you want to skip.

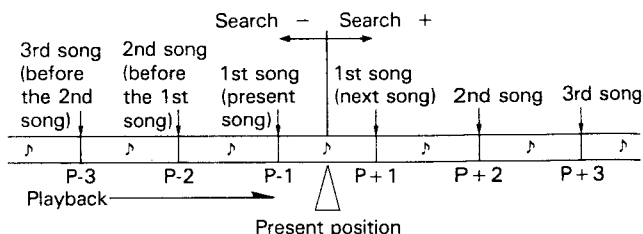
When you are searching for a previous song, press "▶▶" the desired number of times plus one.

#### NOTE:

The song number on the display decreases every time there is a short blank section, indicating the beginning of a song.

### How to count the song number

- When you select a song you want to search for during playback, if you set it for "one song before", you will return to the beginning of the song you were listening to. If you want to return to the song before the one you are listening to, add one to the number.



#### NOTE:

Performing music search on the following types of tape may not be possible. This is not a unit malfunction, however.

- A tape whose unrecorded portions between tracks are less than 4 seconds long.
- A tape with high noise level between tracks.
- A tape with low level or silent passages of several seconds in the same track, such as classical music.
- A tape, such as a conversation tape where second is intermittent.

## PARALLEL RECORDING

With this function, both decks start recording the same source at the same time. Both decks must be in stop mode.

1. Load Deck I and Deck II with tapes to be recorded to.
  - Make sure there is no tape slack.
  - Parallel recording begins from the forward direction (▷).
2. Set DOLBY NR switch ⑬ to the desired position.
3. Select REV MODE switch ⑩.
4. Use the input selector switch on the amplifier to select and play the recording source.
5. Adjust the recording level.
  - ① Press REC (●) switch ⑨ on Deck I or Deck II.
  - ② Adjust the recording level with REC LEVEL control ⑫.
  - ③ Press STOP (□) switch.
6. Press PARALLEL switch ③.
  - Deck I and Deck II will both start recording in the forward direction.
7. To stop recording, press STOP (□) switch ⑨ on either Deck I or Deck II.
  - Both decks will stop.

### NOTE:

- If the accidental erasure prevention tabs of the side A on either tape cassette are broken off, recording will not begin when PARALLEL switch is pressed.
- After beginning recording, pause (⏸), mute (⏻), and stop (□) operate on both decks at the same time.
- During reverse recording, when the head rotates while the leader tape is moving, recording temporarily stops.
- If you use tapes of different length, recording stops when the shortest tape ends, so it is recommended you use tapes of the same length.

## RELAY RECORDING

With this function, Deck II starts recording when Deck I finishes recording. Both decks must be in stop mode.

1. Load Deck I and Deck II with tapes to be recorded to.
  - Make sure there is no tape slack.
  - In Deck II, recording will be performed in the direction that is presently indicated (◁ or ▷), so make sure the tape is loaded correctly.
2. Set DOLBY NR switch ⑬ to the desired position.
3. Select REV MODE switch ⑩.
  - ⏮ : When recording finishes on one side of the tape in Deck I, recording will start on one side of the tape in Deck II.
  - ▷ or ◁ : When relay recording finishes on Deck I, relay recording starts on Deck II. If recording starts in the ▷ direction, however, the tape doesn't reverse (the tape doesn't reverse from ▷ to ▷ on either of the decks).

4. Use the input selector switch on the amplifier to select and play the recording source.
5. Press REC (●) switch ⑨ on Deck I
6. Adjust the recording level with REC LEVEL control ⑫.
7. Press the appropriate PLAY (◁ or ▷) switch ⑨ on Deck I.
  - Recording starts on Deck I.
8. Press RELAY/SKIP switch ②.
9. To stop recording, press STOP (□) switch on the deck recording.
  - If you press STOP switch during recording on Deck I, RELAY/SKIP indicator stays lit.

## SOUND FIELD CONTROL

### What is sound field control?

With this you can choose one of the five sound fields available, and enjoy the sensation of listening to music in different environments. By turning the large round knob you can alter the sensations of width, depth, and reverberation to get just the sound you're looking for.

### NOTE:

You can get the effect of sound field control using only the front speakers, so you don't have to connect the surround speakers. If you connect the surround speakers however, the effect will be more pronounced.

### The following are the five sound fields available.

1. **ARENA**...Gives you the sound field of a live rock or pop concert.
2. **THEATER**...Creates the sensation of being in a theater or cinema.
3. **DISCO**...Creates the sensation of being in a disco, with a lot of reverberation.
4. **HALL**...Gives you the feeling of being at a classical concert.
5. **CHURCH**...Gives you the impression of being in a large church with a pipe organ.

You can also change the following three characteristics (parameters that make up the sound field, hereafter referred to as parameters) of all the sound fields.

- A. **WIDTH**...Width
- B. **DEPTH**...Depth
- C. **RVRB**...Reverberation

## &lt; Standard Sound Field Settings &gt;

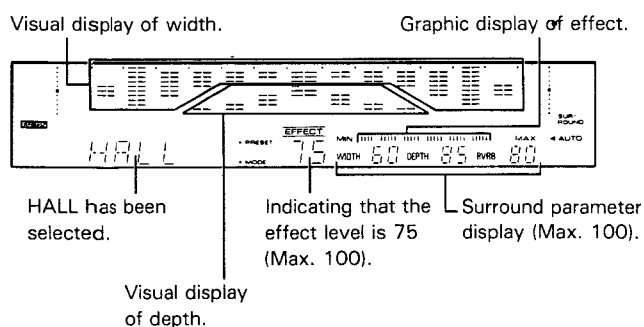
Sound Field	EFFECT	Parameter		
		WIDTH	DEPTH	RVRB
ARENA	65	65	30	50
THEATER	60	35	30	20
DISCO	70	50	25	40
HALL	50	50	50	40
CHURCH	50	45	45	50

## &lt; Preset Settings &gt;

Name	Original sound field	EFFECT	Parameter		
			WIDTH	DEPTH	RVRB
HEAVY	ARENA	60	50	25	40
CLEAR	HALL	40	30	30	25
SOFT	CHURCH	50	45	20	50
VISUAL	THEATER	80	30	60	40
VOCAL	ARENA	50	30	15	40

## How to operate (in AUTO mode)

1. Press SOUND EFFECT switch ⑪, and "EFFECT" indicator lights.
2. Select the desired sound field with SOUND FIELD selector switches ⑩.
  - It automatically switches to Auto mode (the mode in which you can control sound field effect level with SOUNDJOG), and the ◀ AUTO indicator lights.
3. Adjust effect level with SOUNDJOG dial ⑫.
  - About five seconds after display of information shown in the following drawing, it returns to the original display mode.



- If you return to the original effect level, press STANDARD switch.

## NOTE:

- You can record sound on the cassette deck after it has been processed by the sound field processor.
- Super bass and active loudness will however, be OFF.
- When you are recording on the cassette deck, the only operation you can perform is display switching.
- You can record sound processed by the sound field processor on a DAT or VCR connected to the amplifier.

## How to recall a factory preset effect

This unit has five factory preset.

1. **HEAVY** — Ideal sound field for rock, pop, and live concerts.
2. **CLEAR** — Ideal sound field for electronic music, and fusion.
3. **SOFT** — Ideal sound field for "easy listening" and background music.
4. **VISUAL** — Ideal sound field when you are enjoying a sports event or movie.
5. **VOCAL** — Ideal sound field when you are listening to an opera or musical.

1. Press SOUND EFFECT switch ⑪, and "EFFECT" indicator lights.
2. Use PRESET/PGM switch ⑦ to select PRESET.
  - Press so that ◀ PRESET indicator lights.
3. Press a memory recall switch ⑤ for the preset sound field you wish to recall.

## NOTE:

- As each of the preset memories is based on one of the sound fields, a few seconds after recall, the display changes accordingly.

HEAVY → ARENA  
 CLEAR → HALL  
 SOFT → CHURCH  
 VISUAL → THEATER  
 VOCAL → ARENA

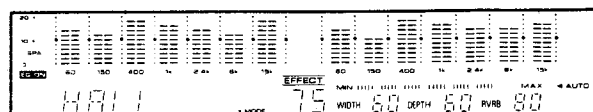
- Remember that after memory recall, if you operate SOUNDJOG, the sound field will change.

## Switching the display

Select from the following four modes.

Each time you press DISPLAY CALL switch ⑨, the mode changes in this order.

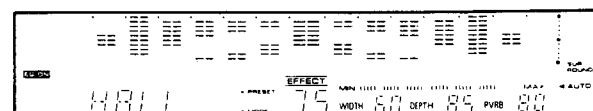
## ① Spectrum Analyzer Display



## ② Graphic Equalizer Display

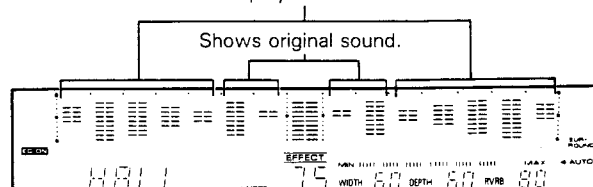


## ③ Surround (Sound Effect) Display I



## ④ Surround (Sound Effect) Display II

Presents a visual display of the sound effect.



## SOUND FIELD CONTROL

### Graphic equalizer control

After performing sound field control and preset memory recall, you can finely adjust sound quality with the equalizing control switches.

Press **EQUALIZING CONTROL** switches ① for the frequency bands you want to adjust.

Press "+" side to boost, and "-" side to attenuate a signal.

During operation, the display section shows graphic equalizer display. A few seconds after operation, it returns to the original display mode.

### Active loudness

The effect graphic equalizer pattern changes automatically depending on the amplifier volume level setting. The lower volume level, the more the bass and treble are boosted. If the volume level is raised, the graphic equalizer has less effect.

You can still enjoy a powerful sound even at low volume levels.

Press **ACTIVE LOUDNESS** switch ② to light **ACTIVE** indicator.

The original equalization curve and the active loudness curve will be displayed for a few seconds. After this, it returns to display of the settings made with **DISPLAY CALL** switch ⑨.

Press **ACTIVE LOUDNESS** switch again to cancel.

#### NOTE:

- There may be something that sounds like switching noise audible when the equalizing pattern changes.
  - If the sound is recorded by other components (DAT, VCR, etc.), the effect, as heard through the speakers, will also be recorded, so be careful.
- Therefore, it is recommended that active loudness be turned off when recording with other components.

### Random equalizing

This applies an equalization setting at random, so you never know what kind of tonal quality you will hear.

Press **RANDOM EQUALIZING** switch ③.

"RANDOM" will appear on the display for a few seconds.

The automatically set equalizer characteristics curve will be displayed for a few seconds.

Then the display will return to the setting selected with **DISPLAY CALL** switch ⑨.

This is canceled if **EQUALIZING CONTROL** switches or **ACTIVE LOUDNESS** switch is operated.

### When you want to use it just as a graphic equalizer.

1. Press **SOUND EFFECT** switch ⑪ to turn off the "EFFECT" indicator and "EQ ON" indicator.
2. Press **EQUALIZER** switch ⑫ so that the "EQ ON" indicator lights.

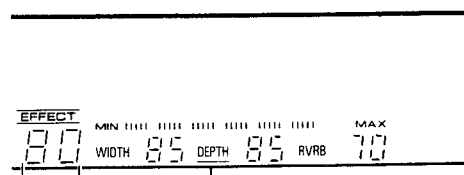
You can now use this as a graphic equalizer.  
Operate with the equalizing control switches.

### Changing the parameters by manual operation.

You can manually adjust the three basic parameters of the sound field (WIDTH, DEPTH, RVRB).

1. Use **SOUND FIELD** selector switches ⑬ to call up a sound field, then use **SOUNDJOG** dial ⑭ to adjust.
2. Use **MANUAL SELECT** switch ⑮ to select the parameter that you wish to adjust.
  - A line appears in the display under the name of the parameter which can be adjusted.
3. Use **SOUNDJOG** dial ⑭ to adjust the level of the effect parameter.
  - Repeat steps 2 and 3 to adjust each of the three parameters.

When you wish to return to the original sound, press **AUTO** switch so that the line disappears from under the selected parameter name on the display.



Overall effect does not change

Indicated parameter can be adjusted

### How to store a sound field that you have created.

The memory recall switches can store sound fields and equalization patterns that you have created.

1. Choose a sound field and adjust to match your taste.
  - ① Adjust with the **SOUNDJOG** dial.
  - ② Adjust graphic equalizer.
  - ③ Adjust parameter level.
2. Press **PGM MEMORY** switch ⑥.
  - "MEMORY" indication flashes.
3. Press one of the memory recall switches ⑤ while "MEMORY" flashes.
  - For example, if you pressed **HEAVY/A** the display returns to sound field indication after showing "PGM-A". This completes memory storage.
  - Repeat steps 1-3 to put one setting into each of the memory locations A-E.

#### NOTE:

A setting will not be memorized if one of the memory recall switches is not pressed while "MEMORY" is flashing.  
If it stops flashing before you press, press **PGM MEMORY** switch again and try again.

### How to recall your memorized effect.

1. Use **PRESET/PGM** switch ⑦ to turn on "◀ PGM" indicator in the display section.
2. Press the memory recall switch ⑤ for the memorized setting that you wish to recall.



## VIDEO SIGNAL SELECTOR

On this system you can select video output independently of the selected function. This means that you can watch an LD picture while listening to the sound of a CD. This lets you enjoy audio-video entertainment with real freedom.

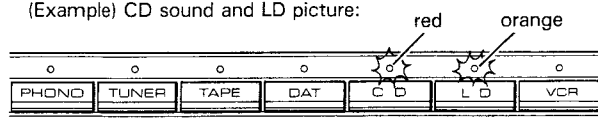
### 1. Start play.

- Use the input selector to select your source and begin play.
- Begin play of the video source.

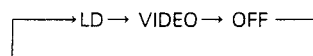
### 2. Use VIDEO SIGNAL SELECTOR switch ⑭ to choose the picture source.

An orange indicator shows the video source. A red indicator shows the audio source.

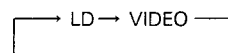
(Example) CD sound and LD picture:



- When the input selector has been used to select an audio source: Every time you press the video signal selector switch, the indication changes as shown here.



- If you use the input selector to select a video source, it changes as shown here.



#### NOTE:

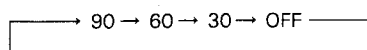
- Only the red indicator lights if the selected video and audio sources are identical.
- VIDEO SIGNAL SELECTOR switch off automatically if the selected video and audio sources are the same.

## SLEEP TIMER — Automatically turns off power.

Power is turned off automatically after your set time has elapsed. When the sleep timer is operating, **SLEEP TIMER** is lit in the tuner display section.

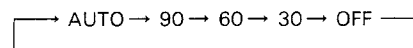
Each time you press SLEEP key, the setting changes in the sequence shown here.

#### During playback:



Unit: minutes

#### During recording:



Unit: minutes

If you select AUTO, POWER will switch OFF at the end of the tape. If you select OFF, the sleep timer function is canceled.

#### NOTE:

The sound fades out when the sleep timer cuts the power.

## TIMER PLAYBACK (Playback using the weekly timer).

### (Use tuner for timer setting)

This system's tuner is equipped with three timers (TIMER 1 to 3). You can use each of these for play back and recording. (Example: TIMER 1: Play, TIMER 2: Play, TIMER 3: Recording).

At the set time, power is switched on and play begins automatically. If the timer clock isn't set, timer operation doesn't occur, even though the timer can still be set.

(Example) When you've set **TIMER 2** for play from 7:15 to 9:30. (See page 7, Fig. 16).

### 1. Set the timer.

- ① Press **TIMER PGM** switch ①, and select the timer:

Each time you press the switch, it changes in the following way.

TIMER 1 → TIMER 2 → TIMER 3 → TIMER 1 → ...

- ② Press **SET/NEXT** switch ⑪.

- ③ Select the desired day for play with **STATION CALL/Day input** switches ⑦.

If you press the day selection switch for a particular day, that day will be set, and the line under the display will light. If you press it again, the bottom line goes out, and the day setting is canceled.

If you press **WEEK**, all the days will be set at once.

- ④ Press **SET/NEXT** switch ⑪.

- ⑤ Use "--" and "+" switches ② to select **EVERY** (Every week) or **ONCE**.

- ⑥ Press **SET/NEXT** switch ⑪.

### 2. Set the timer start time.

- ① Use "--" and "+" switches ② to set the turn on hour.

- ② Press **SET/NEXT** switch ⑪.

- ③ Use "--" and "+" switches ② to set the turn on minutes.

- ④ Press **SET/NEXT** switch ⑪.

## TIMER PLAYBACK

### 3. Set the timer stop time.

- ① Use "--" and "+" switches ② to set the turn off hour.
- ② Press SET/NEXT switch ①.
- ③ Use "--" and "+" switches ② to set the turn off minutes.
- ④ Press SET/NEXT switch ①.

### 4. Select timer play, and set the Listening Style.

- ① Use "--" and "+" switches ② to set to "PLAY".
- ② Press SET/NEXT switch ①.
- ③ Set the Listening Style with "--" and "+" switches ②. Each time you press "+" switch, the Listening Style changes in the following order.

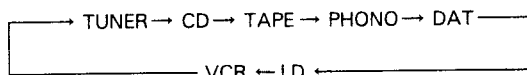
BGM → NIGHT → PURE → LSS OFF

(If you use the "--" switch, they change in the opposite order)

- ④ Press SET/NEXT switch ①.

### 5. Select the listening source with "--" and "+" switches.

The listening source changes each time "--" and "+" switches are pressed. The listening source changes in the following order when "+" switch is pressed.



Select TUNER, CD, or TAPE.

#### If you selected TUNER

Select the station call number. Station call is not possible for stations not memorized in STATION CALL switches.

- ① Press SET/NEXT switch ①.
- ② Use "--" and "+" switches ② to select the desired station call number.
- ③ Press SET/NEXT switch ①.
  - Settings are displayed one after another.
  - This completes timer setting for the tuner. Your tuner will start to operate at the preset time.

#### If you selected CD

(When using the optional PD-Z560T or the PD-Z960M)

Select the track number of the song you want to start listening from. You can select from tracks 1 to 15 on Disc 1.

If you want random play, select \*:

- ① Press SET/NEXT switch ①.
- ② Select the track number with "--" and "+" switches ②.
- ③ Press SET/NEXT switch ①.
  - Settings are displayed one after another.
  - This completes timer setting for the CD. The CD will start playing at the preset time.

#### If you selected TAPE

Press SET/NEXT switch ①.

- Settings are displayed one after another.
- This completes timer setting for the TAPE. Playback will start at the preset time.

The above shows the completion of timer play setting for one timer, using TIMER 2 display as an example.

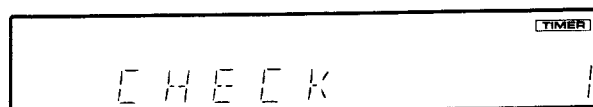
### 6. When the power is switched on, switch to OFF (STANDBY).

#### Making corrections during timer setting

Pressing TIMER ON/OFF switch takes you back one step in the procedure. Each time it is pressed, it takes you a further step back. Press the appropriate number of times to return to the step where you made a mistake, and make corrections.

#### Confirming settings

You can check your settings with TIMER CHECK switch.



Press TIMER CHECK switch repeatedly until the setting you want to check is displayed. Settings are displayed one after another.

#### Priority of timer setting operation

- When there are a number of timer settings, operation of previous settings takes priority. Operation does not start from the last setting.
- If the finish time of a setting is the same as the start time of another setting, the start setting will not operate. (Make sure there's a one minute or more time difference between a finish setting and a start setting)
- If timer start settings are the same, they will operate in the order TIMER 1, 2, and 3.

#### If the timer doesn't operate

When checking the timer, if you press TIMER ON/OFF switch and the timer indicator goes off, that timer will not operate.

The timer setting is memorized, so if you check the timer setting again and make sure the indicator lights with TIMER ON/OFF switch, it will operate.

#### Precautions concerning the timer

1. If you don't perform the next operation within a few seconds of pressing TIMER PGM switch, timer mode is canceled, returning you to frequency display.
2. You can perform timer setting even if power is on STANDBY.
3. If you press a day selection switch twice, the day is canceled.
4. If you have selected tape playback:
  - Playback starts in the same direction (◀ or ▶) the tape was playing just before the power was cut.
  - If only one deck is loaded with a tape, playback begins on that deck.
  - If both Deck I and Deck II are loaded with tapes, relay playback starts on Deck I.
5. With EVERY and ONCE selection, if you select ONCE, the timer will only operate once. The setting is still memorized, however, so if you make sure the timer indicator lights using TIMER ON/OFF switch when checking the timer settings, it will operate again.
6. If the ON time and OFF time settings are the same on a single timer, no operation will occur.

7. The timer will not operate unless power is on **STANDBY**.
8. If **MUTING** is **ON**, even if the timer operates, there will be no sound.

### The SNOOZE function

If you press **SNOOZE** key on the remote control unit after the timer has started operating, power will be cut for about five minutes, and then it will switch on again. If there are less than five minutes of timer operation remaining, when you press **SNOOZE** key, power will remain cut, and timer operation will finish.

## TIMER RECORDING (Recording using the weekly timer)

### (Use tuner for timer setting)

This system is equipped with three timers (TIMER 1 to 3). You can use each of these for play and recording (Example: TIMER 1: Play, TIMER 2: Play, TIMER 3: Record).

At the set time power will switch on, and recording will start. If the timer clock isn't set, timer operation will not occur, even though the timer can still be set.

(Example) If you use **TIMER 3**.

(See page 8, Fig. 17.)

#### 1. Set the cassette deck to record standby.

- ① Load the deck with the cassette to be recorded on.
  - If you want to copy a tape, load Deck I with the tape you want to copy, and Deck II with the tape you want to record on.
  - If you only want to record on Deck II, load it with a tape.
  - If you want to perform relay recording or parallel recording, load both decks with a tape to record on.

If you select **RELAY**, carry out the necessary procedures for recording and record in the direction displayed (◀ or ▶). If you select **PARALLEL**, recording will start in the forward direction (▶), so be careful you load the tape correctly.

- ② Select **REV MODE** switch ⑩.
- ③ Set **DOLBY NR** switch ⑬ to the desired position.
- ④ Press **REC (●)** switch ⑨.
- ⑤ Adjust the recording level with **REC LEVEL** control ⑫.
- ⑥ Press **STOP** switch ⑧.

#### 2. Set the timer.

#### 3. Set the timer start time.

#### 4. Set the timer stop time.

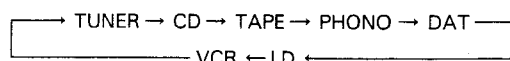
Procedures 3, 4, and 5 are the same as **TIMER PLAYBACK** procedures 2, 3, and 4, so refer to page 33, 34 before setting.

#### 5. Select timer recording.

- ① Use “-” and “+” switches ② to set to “**REC**”.
- ② Press **SET/NEXT** switch ⑪.

#### 6. Select the recording source with “-” and “+” switches ②.

The recording source changes each time “-” and “+” switches are pressed. The recording source changes in the following order when “+” switch is pressed.



Select **TUNER**, **CD**, or **TAPE**.

#### If you selected **TUNER**

Select the station call number. Station call is not possible for stations not memorized in **STATION CALL** switches.

- ① Press **SET/NEXT** switch ⑪.
- ② Use “-” and “+” switches ② to select the desired station call number.
- ③ Press **SET/NEXT** switch ⑪.
- ④ Select the recording mode with the “-” and “+” switches ②. The recording mode changes in the following order when “+” switch is pressed.



TAPE II ..... Record on Deck II  
 RELAY ..... Relay recording on Deck I and Deck II  
 PARALLEL ..... Deck I and II parallel recording

- ⑤ Press **SET/NEXT** switch ⑪.
  - Settings are displayed one after another.
  - This completes timer setting for the tuner. Recording will start at the set time.

## TIMER RECORDING

### If you selected CD

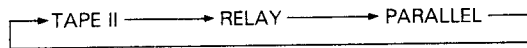
(When using the optional PD-Z560T or PD-Z960M)

Set the A.S.E.S. recording mode and the A.S.E.S. Mode. Refer to your CD player operating instructions for details concerning the A.S.E.S. Function.

① Press SET/NEXT switch ⑪.

② Select the record mode with “-” and “+” switches ②.

The recording mode changes in the following order when “+” switch is pressed.

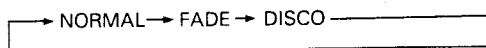


TAPE II..... Recording on Deck II  
RELAY..... Relay recording on Deck I and Deck II  
PARALLEL..... Deck I and Deck II parallel recording

③ Press SET/NEXT switch ⑪.

④ Select the A.S.E.S. Mode with “-” and “+” switches ②.

Every time you press the switch, the mode changes in the following order.



⑤ Press SET/NEXT switch ⑪.

- Settings are displayed one after another.
- This completes timer setting for the CD. Recording will start at the set time.

### If you selected TAPE

Press SET/NEXT switch ⑪.

- After COPY display, the settings are displayed one after another.
- This completes timer setting for the TAPE. Recording will start at the set time.

The above shows the completion of timer recording setting for one timer, using TIMER 3 display as an example.

### 7. When the power is switched on, switch to OFF (STANDBY).

#### NOTE:

- If the erasure prevention tabs on the loaded tape are bent, timer recording will not occur.
- For details concerning timer check, correction, and order priority, refer to the explanation of TIMER PLAYBACK on page 35.
- During timer recording operation, there is no sound from the speakers. (You can have sound, however, by operating the volume knob).

## SHIFT TIMER (Changing just one day in the timer settings)

This function lets you change one day of an EVERY (every week) timer setting for just one occasion.

The shift timer only operates once. The original setting operate the following week.

(Use tuner for shift timer setting)

(See page 8, Fig. 18.)

1. Press SHIFT switch ⑧, and select the timer (1, 2, or 3).
  - Each time you press SHIFT switch, the numbers of the timers with EVERY settings are displayed one after another.

2. Press SET/NEXT switch ⑪.

- The day settings of the selected timer are displayed.

3. Select the day you want to shift with the day selection switches.

- You can only select a day that has already been set.

4. Press SET/NEXT switch ⑪.

Any further operations are the same as timer playback and timer recording procedures. For timer start time setting, refer to timer playback procedure 2 and timer recording procedure 3, below.

## MICROPHONE MIXING

### MIXING KNOW-HOW

Mixing involves combining the signals from two input sources (a microphone and a tape, for example).

### MIXING PROCEDURE

1. Plug a microphone into MIC jack ⑪.
2. Adjust VOLUME ⑧ to a suitable level.
3. Set MIC LEVEL control ⑫ to the center position between MIN and MAX.
  - If howling occurs (a high-pitched sound from the speakers), take the following steps.
    1. Move the microphone away from the speakers.
    2. Lower the volume.
4. Select the desired program source using the input selector switches ⑩.
5. Start playback of the program source.
6. Adjust VOLUME control ⑧.

7. Use MIC LEVEL control ⑫ to adjust the microphone level in relation to the music source.

8. Talk or sing into the microphone.

#### NOTE:

The microphone sound will not be heard from the speakers if the DIRECT MODE is on (allowing mixing recording).

### MIXING RECORDING

You can use the mixing feature to record input from a microphone and another source together.

However, mixing recording is not possible during tape playback.

1. Perform steps 1 to 8 in the section “MIXING PROCEDURE”
2. Load a tape for recording into Deck II (or I).
3. Press REC (●) switch ⑨ on Deck II (or I).
4. Press PLAY (▷ or ◁) switch ⑨ on Deck II (or I).
5. Sing along with the program source.

# HOW TO USE THE LISTENING STYLE SELECTOR










The Listening Style Selector function lets you recall preset operations for various components with a single switch when you are listening to music.

The following three listening styles are preset. You can also create and memorize your own listening styles.

**BGM** . . . . . This is the position for listening to music for long periods of time. It provides a clear sound field with a wide sound.

**NIGHT** . . . . . This is the position when you want the music to be quiet. Volume is kept at a low level, and the sound is very soft.

**PURE** . . . . . This position lets you enjoy the full quality of music. Volume is quite high, and direct switches ON for CDs and DATs.

Automatic Operations		BGM	NIGHT	PURE
Volume	MORNING TIME 8:00 to 10:00	 About 1.9 position on the dial	 About 1.5 position on the dial	 About 2.4 position on the dial
	DAY TIME 10:00 to 20:00	 About 2.2 position on the dial	 About 1.7 position on the dial	 About 2.7 position on the dial
	NIGHT TIME 20:00 to 8:00	 About 1.6 position on the dial	 About 1.3 position on the dial	 About 2.3 position on the dial
Input selector		TAPE	TUNER	CD
Direct mode		OFF	OFF	ON
Effect mode		ON (HALL)	ON (CHURCH)	OFF
Sound field control		CLEAR	SOFT	OFF (Flat)
Active loudness		ON	OFF	OFF
Enhance		ON	OFF	OFF
Function setting	CD	CD random play starts automatically	CD play starts automatically	Switches to the CD direct mode, and CD play starts automatically
	TAPE	Tape playback starts automatically	Tape playback starts automatically	Tape playback starts automatically
Precautions		<ul style="list-style-type: none"> <li>If you recall from the direct mode, direct is canceled.</li> </ul>	<ul style="list-style-type: none"> <li>If you recall from the direct mode, direct is canceled</li> <li>Every 15 minutes the volume level drops gradually</li> </ul>	<ul style="list-style-type: none"> <li>Even if the function is DAT, it switches to DAT DIRECT.</li> </ul>

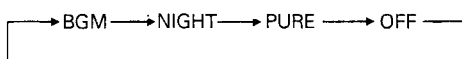
## NOTE:

If the input selector selected with the timer playback and the Listening Style Selector function settings differ, timer settings take priority.

## How to recall

Each time you press LSS MODE switch ④, the presets are recalled in the following order.

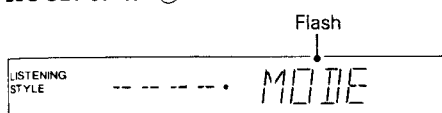
The letters are displayed in the display section.



## Changing the settings

You can change the Listening Style Selector settings and enjoy creating your own original listening styles.

1. Choose from among the automatic operations in the listening style explanation chart.
2. Press LSS SET switch ③.

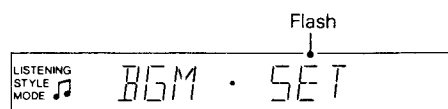


- If you don't perform the next operation within five seconds of pressing the LSS SET switch, the LSS writing mode is canceled.

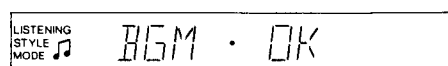
3. Select the position to be memorized with LSS MODE switch ④.

- Each time you press LSS MODE switch, the listening style changes and is displayed in the following order.

BGM → NIGHT → PURE → CLEAR → BGM → .....



4. Press LSS SET switch ③.



## NOTE:

- If the DAY TIME volume level is high, NIGHT TIME and MORNING TIME volume levels will be decreased more.
- It's not possible to set the volume level above about 4.0 when using the listening style selector.

## How to return to the initial settings

- ① Press LSS SET switch ③.
- ② Press LSS MODE switch ④, and select CLEAR.
- ③ Press LSS SET switch ③.

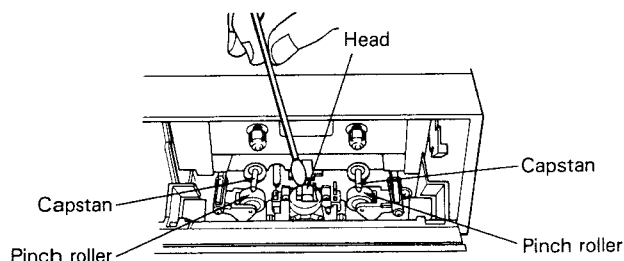
This recalls the initial settings for all three positions.

# MAINTENANCE

## CLEANING THE HEAD SECTION

The heads, capstan and pinch roller are parts which are liable to get dirty quite easily. In particular, if the heads are dirty, the high frequency components of the sound will not be reproduced and the stereo balance will be impaired, resulting in a deterioration in sound quality. It is therefore recommended that the head section be cleaned regularly.

- Press EJECT switch to open the cassette door.
- Dip a cleaning swab into head cleaning fluid and use it to wipe the heads, capstan, and pinch roller. Be careful the cleaning swab doesn't become entangled. Wait 2–3 minutes till cleaning fluid dries.



## DEMAGNETIZING THE HEAD

The recording/playback head becomes magnetized when you use the tape deck for prolonged periods of time. This results in noise being generated and the treble dropping off during recording and playback. The recording/playback head should therefore be demagnetized regularly with a commonly sold head demagnetizer.

For further details, refer to the operating instructions accompanying your head demagnetizer.

### NOTE:

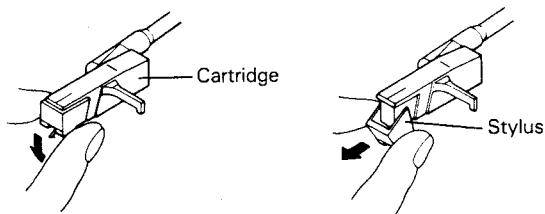
- Do not hold screwdriver, metal objects or magnets close to the heads.
- When demagnetizing the heads, be sure the unit's POWER switch is in the **STANDBY** position.

## CLEANING THE UNIT

Wipe the front panel and the cassette door when dusty or greasy with a soft cloth containing a small amount of ordinary clean up liquid. Then wipe dry with a cloth. Never use volatile spirits like thinners, benzene or alcohol, as they will damage the panel's finish.

## REPLACING THE STYLUS

1. Remove the stylus gently.
2. Attach the new stylus to the cartridge.



### NOTE:

- The service life of the stylus on the supplied cartridge ranges from 800 to 1,000 hours. (After about one year if you play records, about two hours everyday. However, the stylus may need to be replaced earlier depending on the way it is used.)
- Using a worn or damaged stylus can damage your records and distort the sound reproduction. Remember to replace the stylus at the earliest possible date.
- Always use the PIONEER "PN-210" as a replacement stylus.
- Always ask for a genuine PIONEER replacement stylus.

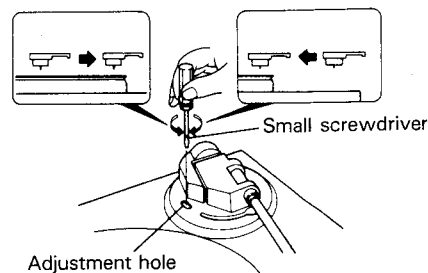
## PRECAUTION:

If the turntable is mounted directly on or against a speaker, the vibration from the speaker will be transported to the tonearm's cartridge, thus causing feedback howling. Be sure that speakers are mounted sufficiently isolated from the turntable.

## ADJUSTING THE STYLUS DESCENT POSITION (PL-Z560 only)

Proceed as follows when the stylus does not descend at the proper position on the record during auto play. While performing the adjustment, take care not to scratch the record with the stylus.

1. Place a 30-cm record on the platter.
2. Push **PLAY/STOP** switch to start auto play.
  - Check the direction and amount of stylus deviation (how many millimeters towards the inside or outside of the record's lead-in groove).
3. Push **PLAY/STOP** switch to return the tonearm to the arm rest.
4. Set **ARM-ELEVATION** switch to **UP** position and manually move the tonearm across the outside edge of the record.
5. Rotate the screw with a small screwdriver in accordance with the direction of the deviation observed in step 2.



- Rotate the screw clockwise if the stylus descends on the outside of the proper position.
  - Rotate the screw counterclockwise if the stylus descends on the inside of the proper position.
6. Manually return the tonearm to the arm rest and set **ARM-ELEVATION** switch to **DOWN** position.
  7. Push **PLAY/STOP** switch and check that the stylus stops at the lead-in groove on the outer circumference of the record. If the position is still not correct, repeat steps 2 to 6.

# TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used. If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

SYMPTOM	CAUSE	REMEDY
There's no power even when the power switch is ON.	<ul style="list-style-type: none"> <li>AC cord is unplugged.</li> </ul>	<ul style="list-style-type: none"> <li>Plug power cord into AC outlet.</li> </ul>
There's no sound from the speakers.	<ul style="list-style-type: none"> <li>The connecting cord has come out of the jack or connection is incorrect.</li> <li>Volume is turned all the way down.</li> <li>MUTING switch is ON.</li> <li>Speaker cords are disconnected.</li> <li>Speaker cord is connected with vinyl insulation still on.</li> <li>The amplifier input selector switch is not in the correct position for the component you're using.</li> </ul>	<ul style="list-style-type: none"> <li>Unplug the power plug from the power outlet, and check the cord connection.</li> <li>Raise the volume knob setting.</li> <li>Switch MUTING OFF.</li> <li>Connect speaker cords correctly.</li> <li>Strip vinyl insulation from speaker wire tips before connecting.</li> <li>Select the correct input switch position.</li> </ul>
Even with power switched ON, there's no power to the sound field processor, tuner or deck.	<ul style="list-style-type: none"> <li>Sound field processor input/output cords are disconnected.</li> <li>Deck input/output cords are disconnected.</li> </ul>	<ul style="list-style-type: none"> <li>Connect correctly.</li> <li>Connect correctly.</li> </ul>
Sound only comes from one side.	<ul style="list-style-type: none"> <li>One of the speaker cords is disconnected or damaged.</li> <li>Incorrect balance setting.</li> </ul>	<ul style="list-style-type: none"> <li>Connect correctly or replace with good-quality cord.</li> <li>Set balance to the center position.</li> </ul>

## Cassette deck

Cassette door will not open.	<ul style="list-style-type: none"> <li>Deck is still operating.</li> <li>Power was cut during tape transport.</li> </ul>	<ul style="list-style-type: none"> <li>Press the stop switch (□).</li> <li>Switch on the power again.</li> </ul>
Cassette door will not close.	<ul style="list-style-type: none"> <li>Cassette tape is incorrectly inserted.</li> </ul>	<ul style="list-style-type: none"> <li>Insert the cassette tape correctly.</li> </ul>
Tape doesn't move.	<ul style="list-style-type: none"> <li>Deck is in pause mode.</li> <li>Cassette inserted incorrectly.</li> <li>The tape has ended.</li> </ul>	<ul style="list-style-type: none"> <li>Press pause or play switch.</li> <li>Put cassette properly in holder.</li> <li>Rewind the tape.</li> </ul>
No sound	<ul style="list-style-type: none"> <li>Amplifier input selector switch is in a position other than TAPE.</li> <li>Playing unrecorded tape.</li> </ul>	<ul style="list-style-type: none"> <li>Switch input to the TAPE position.</li> <li>Play recorded tape.</li> </ul>
Can't record.	<ul style="list-style-type: none"> <li>Erase prevention tabs are broken off.</li> <li>Record level knob (REC LEVEL) is at "0"</li> <li>Connection to the amplifier is incorrect.</li> <li>Incorrect selection of amplifier recording source.</li> <li>Dirty head.</li> </ul>	<ul style="list-style-type: none"> <li>Apply adhesive tape over the tab holes (see page 24).</li> <li>Raise the recording level.</li> <li>Connect correctly (see page 10).</li> <li>Select the correct source.</li> <li>Clean the head (see page 38).</li> </ul>
Previous recordings can be still be heard after recording.	<ul style="list-style-type: none"> <li>Dirty head.</li> </ul>	<ul style="list-style-type: none"> <li>Clean head.</li> </ul>
Can't copy.	<ul style="list-style-type: none"> <li>One deck has no tape loaded.</li> <li>Tape in deck II has erasure prevention tabs broken off.</li> </ul>	<ul style="list-style-type: none"> <li>Load tapes in both decks.</li> <li>Use cassette that can be recorded on.</li> </ul>
Sound is muddy. Sound level is low.	<ul style="list-style-type: none"> <li>Dirty head</li> <li>DOLBY NR system is ON when listening to a tape recorded without Dolby NR.</li> </ul>	<ul style="list-style-type: none"> <li>Clean head.</li> <li>Use same noise reduction system for playback as for recording. (Do not play tapes recorded with different NR systems.)</li> </ul>
Treble is too pronounced.	<ul style="list-style-type: none"> <li>Tape recorded with DOLBY NR but played without.</li> </ul>	<ul style="list-style-type: none"> <li>Play in same condition as recording. (Turn on DOLBY NR switch for recorded tapes with Dolby NR.)</li> </ul>
When listening to tape, CD, or radio broadcast, you can hear whistling or boomy noise which also appears on recordings.	<ul style="list-style-type: none"> <li>TV power switch is ON.</li> <li>The unit is too close to the TV.</li> <li>High speed copying.</li> </ul>	<ul style="list-style-type: none"> <li>Switch power to the TV OFF.</li> <li>Move TV away until interference stops.</li> <li>Copy using NORMAL instead of HIGH speed.</li> </ul>

## TROUBLESHOOTING

<b>Sound is distorted.</b>	<ul style="list-style-type: none"> <li>• There's noise on the tape you're recording from.</li> <li>• Recording level is too high.</li> <li>• Dirty head.</li> </ul>	<ul style="list-style-type: none"> <li>• Use another tape.</li> <li>• Lower the recording level.</li> <li>• Clean head (see page 38).</li> </ul>
<b>Sound wavers.</b>	<ul style="list-style-type: none"> <li>• Head, pinch roller, capstan are dirty.</li> <li>• Cassette tape isn't perfectly wound.</li> </ul>	<ul style="list-style-type: none"> <li>• Clean (see page 38).</li> <li>• Rewind or fast forward to wind tape correctly.</li> </ul>
<b>There's a lot of noise.</b>	<ul style="list-style-type: none"> <li>• You're using a tape with a lot of noise on it.</li> <li>• Recording level is too low.</li> <li>• Head is dirty.</li> <li>• Head is magnetized.</li> <li>• Imperfect connection of cords.</li> </ul>	<ul style="list-style-type: none"> <li>• Use another tape.</li> <li>• Raise the recording level.</li> <li>• Clean head (see page 38).</li> <li>• Demagnetize the head with a head demagnetizer.</li> <li>• Check all input/output connections and make sure cords are firmly plugged in.</li> </ul>
<b>Music search does not work.</b>	<ul style="list-style-type: none"> <li>• No 4-second space between songs.</li> </ul>	<ul style="list-style-type: none"> <li>• Use tape with 4-second spaces between songs.</li> </ul>
<b>A.S.E.S. doesn't work. ("Err" is displayed on the cassette deck display.)</b>	<ul style="list-style-type: none"> <li>• Not enough conditions are met for A.S.E.S. operation.</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to CD player operating instructions.</li> </ul>

## Tuner

<b>No reception</b>	<ul style="list-style-type: none"> <li>• Antenna not connected.</li> <li>• Wrong radio band.</li> <li>• Station not tuned in.</li> <li>• Amplifier input selector not set to TUNER.</li> </ul>	<ul style="list-style-type: none"> <li>• Connect antenna correctly.</li> <li>• Set to desired radio band.</li> <li>• Tune in station.</li> <li>• Set input selector to TUNER.</li> </ul>
<b>Beat noise heard.</b>	<ul style="list-style-type: none"> <li>• TV is on.</li> <li>• Loop antenna is at bad position.</li> </ul>	<ul style="list-style-type: none"> <li>• Turn off TV or move away.</li> <li>• Set loop antenna to better position.</li> </ul>
<b>Noise heard.</b>	<ul style="list-style-type: none"> <li>• Interference from nearby fluorescent light, hair dryer, or other electrical appliance.</li> <li>• Not tuned in correctly.</li> </ul>	<ul style="list-style-type: none"> <li>• Stop using device causing interference.</li> <li>• Use other controls to tune in station.</li> </ul>
<b>Sound distorted.</b>	<ul style="list-style-type: none"> <li>• Antenna in poor position.</li> <li>• Broadcast is weak.</li> <li>• Interference from other electrical devices or multipath reception.</li> <li>• Input signal is too strong.</li> <li>• CD player cord is too close to the antenna cord.</li> </ul>	<ul style="list-style-type: none"> <li>• Change antenna to position that does not cause distortion.</li> <li>• Use external antenna.</li> <li>• Change supplied antenna position.</li> <li>• Switch LOCAL ON.</li> <li>• Keep CD player cord and antenna cord as far away from each other as possible, or switch off power to CD player.</li> </ul>
<b>Stereo FM broadcasts not in stereo.</b>	<ul style="list-style-type: none"> <li>• Signal is too weak, antenna input is insufficient.</li> <li>• MPX mode is MONO.</li> </ul>	<ul style="list-style-type: none"> <li>• Use an multi-element outside antenna instead.</li> <li>• Cancel MONO mode with the FM MONO switch.</li> </ul>

## Clock and Timer

<b>No time indication</b>	<ul style="list-style-type: none"> <li>• There was a power blackout.</li> <li>• AC plug was pulled.</li> </ul>	<ul style="list-style-type: none"> <li>• Set time again.</li> <li>• Set time again.</li> </ul>
<b>Timer does not work.</b>	<ul style="list-style-type: none"> <li>• Current time is not set.</li> <li>• Start and/or stop time is not set.</li> <li>• Timer is not on.</li> </ul>	<ul style="list-style-type: none"> <li>• Set current time.</li> <li>• Set ON and OFF times.</li> <li>• Operate TIMER CHECK switch and TIMER ON/OFF switch to switch timer ON.</li> </ul>

## Remote Control Unit

<b>Remote control does not work.</b>	<ul style="list-style-type: none"> <li>• Batteries are dead or no batteries in remote control unit.</li> <li>• Poor angle or too great a distance from the remote sensor window.</li> <li>• There is an obstacle between you and the remote sensor window.</li> <li>• A fluorescent light is shining on the remote sensor window.</li> </ul>	<ul style="list-style-type: none"> <li>• Insert new batteries.</li> <li>• Use within seven meters and within a 30 degree angle of the remote sensor window.</li> <li>• Change your position or move the obstacle.</li> <li>• Move so fluorescent light does not shine directly on amplifier front panel remote sensor window.</li> </ul>
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**Sound field processor**

Operation not possible	<ul style="list-style-type: none"> <li>• Deck is recording.</li> </ul>	<ul style="list-style-type: none"> <li>• Can not be operated during recording. Operate before recording.</li> </ul>
No effect	<ul style="list-style-type: none"> <li>• CD DIRECT or DAT DIRECT is ON.</li> </ul>	<ul style="list-style-type: none"> <li>• There is no effect in the DIRECT modes.</li> </ul>

**Turntable**

Platter does not run.	<ul style="list-style-type: none"> <li>• Belt is off.</li> </ul>	<ul style="list-style-type: none"> <li>• Put belt correctly on platter.</li> </ul>
No sound.	<ul style="list-style-type: none"> <li>• Input selector not set to PHONO.</li> </ul>	<ul style="list-style-type: none"> <li>• Set input selector to PHONO.</li> </ul>
Noise or scratchy sounds.	<ul style="list-style-type: none"> <li>• Dust on record.</li> <li>• Scratch on record.</li> </ul>	<ul style="list-style-type: none"> <li>• Clean record.</li> <li>• Use good record.</li> </ul>
Tonearm stylus does not start playing at correct position. (PL-Z560 only)	<ul style="list-style-type: none"> <li>• Tonearm lead-in position needs adjustment.</li> <li>• Record size is not standard.</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to page 38. Adjust position.</li> <li>• Use different record or MANUAL PLAY.</li> </ul>

*Abnormal functioning of this unit may be caused by lightning, static electricity, or other external interference. To restore normal position, turn the power off and then on again, or unplug the AC power cord and then plug it in again.*

# SPECIFICATIONS

## Stereo Amplifier: A-Z560

### Amplifier Section

Continuous Power Output (DIN) ..... 80 W + 80 W  
(1 kHz, T.H.D 1%, 8Ω)

Music power (DIN) ..... 120 W + 120 W (1 kHz, T.H.D 1%, 8Ω)

### D/A converter section

Signal-to-Noise Ratio ..... More than 96 dB (EIAJ)

Dinamic range ..... More than 94 dB (EIAJ)

Frequency range ..... 25 Hz to 20 kHz

Total Harmonic Distortion (1 kHz, 40 W, 8Ω)....No more than 0.06% \*\*

### Input sensity

PHONO (MM) ..... 2.5 mV

MIC ..... 0.25 mV

VCR ..... 150 mV

LD ..... 250 mV

### Output level

DAT, VCR..... 150 mV

MUTING ..... - ∞

### Power Supply/Miscellaneous

Power requirements ..... a.c.220 Volts ~, 50/60 Hz

Power consumption..... 410 W

AC outlets switched (x 1)..... 50 W

Dimensions ..... 360 (W) x 315 (D) x 135.5 (H) mm

Weight (without package) ..... 8.8 kg

### Accessories

Operating instructions ..... 1

Remote control unit ..... 1

Dry cell batteries "AA" (IEC R6/UM-3) ..... 1

\*\* Measured By Audio Spectrum Analyzer.

## Sound Field Processor: SP-Z560

### Graphic equalizer section

#### Equalizer band

Center frequencies ..... 60 Hz, 150 Hz, 400 Hz,

1 kHz, 2.4 kHz, 6 kHz, 15 kHz

Variable range ..... ± 7 dB

### Spectrum analyzer section

Center frequencies..... 60 Hz, 150 Hz, 400 Hz, 1 kHz,

2.4 kHz, 6 kHz, 15 kHz

### Miscellaneous

Dimensions ..... 360 (W) x 332 (D) x 105.5 (H) mm

Weight (without package) ..... 2.8 kg

## FM/AM Tuner: F-Z460L/F-Z460

### FM Tuner Section

Frequency range ..... 87.5 MHz to 108 MHz

Usable Sensitivity ..... Mono: 12.8 dBf, IHF (1.2 μV/75 Ω)

50 dB Quieting Sensitivity ..... Mono: 19.2 dBf, IHF (2.5 μV/75 Ω)

Sensitivity (DIN) ..... Mono S/N 26 dB: 1 μV/75 Ω

Stereo S/N 46 dB: 30 μV/75 Ω

Signal-to-Noise Ratio (IHF, 85 dBf Input) ..... Mono: 77 dB

Stereo: 74 dB

Signal-to-Noise Ratio (DIN)..... Mono: 66 dB

Stereo: 60 dB

Distortion..... 0.4% (1 kHz)

Alternate Channel Selectivity ..... 62 dB (400 kHz)

Stereo Separation ..... 45 dB (1 kHz)

Frequency Response ..... 30 Hz to 15 kHz (± 1 dB)

Antenna Input ..... 75 Ω unbalanced

### MW (AM) Tuner Section

Frequency range ..... 531 kHz to 1,602 kHz

Sensitivity (IHF, Loop antenna) ..... 350 μV/m

Signal-to-Noise Ratio ..... 50 dB

### LW (AM) Tuner Section

#### (For LW-equipped models only)

Frequency range ..... 153 kHz to 281 kHz

Sensitivity (IHF, Loop antenna)..... 1,500 μV/m

### Furnished Parts

FM T-type Antenna..... 1

AM Loop Antenna ..... 1

### Other

Dimensions ..... 360 (W) x 332 (D) x 90.5 (H) mm

Weight ..... 2.7 kg

**Cassette Deck: CT-Z560WR**

Systems .....	4 track, 2-channel stereo
Heads .....	"Hard Permalloy" recording/playback head x 2 "Ferrite" erasing head x 2
Motor .....	DC servo capstan motor x 2 DC reel motor x 2
Wow and Flutter .....	No more than $\pm 0.16$ % (DIN)
Fast Winding Time .....	Approximately 90 seconds (C-60 tape)
Frequency Response (– 20 dB recording):	
Normal tape .....	25 Hz to 16,000 Hz $\pm 6$ dB
CrO <sub>2</sub> tape .....	25 Hz to 16,000 Hz $\pm 6$ dB
Metal tape .....	25 Hz to 17,000 Hz $\pm 6$ dB
Signal-to-Noise ratio	
Dolby NR OFF .....	58 dB
Noise Reduction Effect	
Dolby B type NR ON .....	More than 10 dB (at 5 kHz)
Dolby C type NR ON .....	More than 19 dB (at 5 kHz)
Harmonic Distortion .....	No more than 1.0% (0dB)

**Miscellaneous**

Dimensions .....	360 (W) x 135 (H) x 325 (D) mm
Weight (without package) .....	4.1 kg

**Turntable: PL-Z460/PL-Z560****Motor, Platter**

Motor Type .....	DC servo motor
Drive Method .....	belt drive
Speed .....	33-1/3, 45 RPM
Wow and Flutter .....	0.07 % WRMS (JIS) $\pm 0.10$ % WTD Peak (DIN)
Signal-to-Noise Ratio .....	63 dB (DIN-B)
Platter .....	295 mm dia., aluminum die-cast

**Tonearm**

Type .....	Dynamic balance type, straight tonearm
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**Installed Cartridge**

Type .....	MM Type
Stylus .....	0.6 mil diamond
Replacement Stylus .....	PN-210
Output voltage .....	2.5 mV (1 kHz, 5 cm/s, Lat. peak)
Tracking Force .....	2.0 – 3.0 g (optimum 2.5 g)
Frequency Response .....	20 Hz to 25,000 Hz
Load Resistance .....	47 k $\Omega$
Cartridge Weight .....	4 g

**Other**

Dimensions .....	360 (W) x 102.5 (H) x 359.5 (D) mm
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**Weight**

PL-Z460 .....	2.7 kg
PL-Z560 .....	2.7 kg

**Accessories**

EP Adaptor .....	1
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- Specifications and design subject to possible modification without notice due to improvement.

**POWER-CORD CAUTION**

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

**MAINTENANCE OF EXTERNAL SURFACES**

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are very dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleaners.
- Never use thinners, benzene, insecticide sprays and other chemicals on or near this unit, since these will corrode the surfaces.

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